

<http://researchcommons.waikato.ac.nz/>

## **Research Commons at the University of Waikato**

### **Copyright Statement:**

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

The thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of the thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from the thesis.

# **Coping Strategies that New Zealand Dairy Farmers Use to Combat Stress**

A thesis  
submitted in partial fulfilment  
of the requirements for the degree  
of  
**Masters of Applied Psychology  
(Organisational)**  
at  
**The University of Waikato**  
by  
**Chloe Rose Kuriger**



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

2016

## **Abstract**

New Zealand dairy farmers work in an industry which is associated with high levels of stress and increasing rates of suicide. Occupational issues such as economic factors, changes in the industry, time pressures and poor weather have been found to cause strain in farmers (Botha, 2012), however research examining coping strategies for farmers in New Zealand is lacking. This was an exploratory study which aimed to identify coping strategies that New Zealand dairy farmers engage in to eliminate or reduce the effects of stress due to their job.

Eleven dairy farmers based in the Waikato region of New Zealand, participated in this study by completing an interview and two questionnaires, the Perceived Stress Scale and the Brief COPE. It was found that the participants reported using a wide range of coping strategies. Thematic analysis identified major themes including work related coping, social related coping, maladaptive coping and personal health. The work related theme included both active coping and constructive thinking as means of coping. The social related coping included leisure activities and social support as coping behaviours.

Analysis of the questionnaires found that the participants in this study reported high use of planning, active coping, acceptance, positive reframing, self-distraction, humour and instrumental support as strategies to cope with stress. The similar results from the questionnaires add support for the themes found in this study.

The knowledge of the adaptive coping strategies reportedly used by participants in this study, could help to minimise the negative effects of stress and reduce the high suicide rate in dairy farmers. This study also increases the knowledge of coping strategies used by individuals in high stress occupations such as farming. Further implications of this study, and directions for future research are discussed in the final chapter.

## **Acknowledgements**

Firstly, I would like to acknowledge the endless support and patience from my supervisors Professor Michael O'Driscoll and Dr Maree Roche. Thank you for encouraging me when I needed it.

Secondly, I would like to thank those who shared their story with me. I hope that by talking with me you were able to share the burden a little bit, and realise all the things you do to help yourself get through.

Lastly, I would like to thank my family and friends for pushing me to achieve my goal and supporting me through this journey. And thank you to Aaron, for always believing in me.

## Table of Contents

<b>Abstract.....</b>	<b>ii</b>
<b>Acknowledgements.....</b>	<b>iii</b>
<b>Table of Contents .....</b>	<b>iv</b>
<b>List of Tables .....</b>	<b>vi</b>
<b>Chapter One: Introduction .....</b>	<b>1</b>
Background .....	1
Research Aims .....	15
<b>Chapter Two: Method .....</b>	<b>17</b>
Participants.....	17
Measures .....	17
Procedure.....	21
<b>Chapter Three: Findings .....</b>	<b>24</b>
Thematic Analyses .....	24
Major theme 1: Work focused coping.....	24
Major theme 2: Social related coping .....	30
Statistical Analyses .....	41
<b>Chapter Four: Discussion.....</b>	<b>45</b>
Major theme 1: Work related coping .....	45
Major theme 2: Social related coping .....	49
Strengths of the research .....	57
Limitations of the research.....	58
Implications.....	58
Future Research.....	60
Conclusion .....	60
<b>References .....</b>	<b>62</b>

<b>Appendix A .....</b>	<b>69</b>
Participant Information Sheet .....	69
<b>Appendix B .....</b>	<b>70</b>
Consent Form .....	70
<b>Appendix C .....</b>	<b>72</b>
Interview Protocol.....	72

## **List of Tables**

Table 1. Brief COPE Scales .....	20
Table 2. Active Coping Coding .....	25
Table 3. Constructive Thinking Coding .....	28
Table 4. Leisure Activities Coding .....	32
Table 6. Social Support Coding .....	34
Table 5. Maladaptive Coping Coding .....	37
Table 7. Personal Health Coding .....	39
Table 8. Descriptive Statistics.....	42
Table 9. Correlations of Stress and Computed Coping.....	43

# **Chapter One**

## **Introduction**

This was an exploratory study which aimed to identify coping strategies that New Zealand dairy farmers engage in to eliminate or reduce the effects of stress due to their job. This chapter begins by defining and outlining theories of stress. Literature on stress in farming overseas and in New Zealand is then explored. Definitions and theories of coping are then outlined, followed by a review of coping strategies which may apply to New Zealand dairy farmers based on relevant literature. This chapter discusses literature surrounding stress and coping research, and then considers how the present research may apply to dairy farming in New Zealand.

## **Background**

Agriculture is considered to be a vital industry in New Zealand, leading to over 50 per cent of exports, occupying 52 per cent of the land area and employing nine per cent of the population. Farming in New Zealand is a complex way of living. It exposes farmers to a diverse range of psychological, physical, biological and chemical hazards (Firth, Williams, Herbison, & McGee, 2007; Ang, 2010). The National institute for Occupational Safety and Health has reported that farmers have the most stress-related illness of all occupational groups (Ang, 2010). There is also a growing awareness of the serious psychological threats linked with agriculture including depression and anxiety, high levels of stress and increased rates of suicide (Fraser, Smith, Judd, Humphreys, Fragar & Henderson., 2005). This growing awareness has prompted research surrounding possible causes of stress for farmers. This research will be discussed in this chapter. Following the identification of these causes, coping strategies need to be determined in order to minimise negative effects for dairy farmers.



## **Stress**

Stress is one of the most widely researched psychological constructs, particularly work stress (Alpass et al., 2004). Occupational stress research is becoming increasingly important due to the possible negative effects of stress for individuals when they are unable to cope with the strain. The present study took on the definitions of stress and coping as outlined by the transactional view (Lazarus, 1993).

Firstly, in order to discuss stress, the construct needs to be defined. Beehr and Franz (1987) summarised that stress “has commonly been defined in either one of three ways: as an environmental stimulus often referred to as a force applied to an individual, as an individual’s psychological or physical response to such an environmental force, or as the interaction between these two events” (p.6). Overall, there is agreement that the term ‘stressor’ refers to the environmental stimulus or event and that the term ‘strain’ refers to the person’s response to the stimulus or event (O’Driscoll & Cooper, 2002).

Theories surrounding stress have often identified the importance of both the environment and the person in considering the nature and consequences of stress (Edwards, Caplan, & Harrison, 1998). Lazarus and Folkman (1984) suggested that stress occurs when environmental demands or challenges are perceived by the individual to exceed their resources or capabilities. This is the way the current study defined stress. The transactional model of stress views stress as a process which involves appraisals of the demand or challenge of the individual (McGowan, Gardner, & Fletcher, 2006). This model suggests that stress depends upon an individual’s cognitive appraisal of circumstances and events and the ability to cope (Abel, 2002). The crucial variable in this theory is cognitive appraisal. The process of appraisal allows a person to shift their focus to what people think and do in a stressful encounter. Cognitive appraisal occurs in two steps, primary and secondary. Primary appraisal occurs when the person acknowledges that there is something at stake, it is where the person examines the significance of the encounter, and then evaluates it in terms of personal meaning. Lazarus identified four types of primary appraisal; harm/loss, threat, challenge and benefit (also known as eustress). Secondary appraisal occurs when the individual assesses the availability of coping

resources such as optimism, psychological control and social support (Dewe, O'Driscoll, & Cooper, 2012; Taylor & Stanton, 2007).

Essentially, stress can be thought of as a consequence of a perceived imbalance between demand and the personal resources available to meet the demand, resulting in strain (Raine, 1999). The transactional model of stress relates to farming due to its consideration of stress as a process. This is an important aspect in relation to farming as this means that the stressor and the coping behaviours cannot be separated. The strain that a farmer may feel is based on their appraisal of both the stressor and the coping resources available to them. Different types of stressors may correspond with different types of coping behaviours therefore to understand the coping strategies, the stressor needs to be understood first. It is also important to note the significance of cognitive appraisal within this theory for farming. Farmers do not believe an issue is stressful, then the issue will not cause them harm. However, if the farmer does not believe that they have the necessary resources to handle the issue, then stress arises.

Stress is often seen as negative and harmful for an individual, but it can produce positive responses and outcomes. Positive stress, known as 'eustress' by Selye (1976), refers to the positive aspects of stress, while distress represents the negative aspects of stress. Eustress is defined as a positive psychological response to a stressor as indicated by the presence of positive psychological states such as hope, meaningfulness and positive affect. These types of positive thinking could be found in dairy farmers in New Zealand. While farmers may experience challenging times, such as calving, the farmers may realise that it is seasonal and hope for the best outcome. Distress (otherwise known as stress in most literature) is a negative psychological response to a stressor, as indicated by the presence of negative psychological states (McGowan et al., 2006). According to Selye, stress is an inevitable consequence of living and the degree of demand is paramount. If all stress can be split into either eustress or distress, and distress refers to excessive demand or not enough demand, then eustress might be considered to be the amount between too much and too little, an optimal level of stress (Le Fevre, Matheny, & Kolt, 2003). Eustress has been found to be associated with constructs such as hope, meaningfulness, positive affect, task engagement, absorption and flow. In contrast, distress is indicated by negative affect, anger, job alienation and frustration (McGowan et al., 2006). While it is well recognised that farming is a stressful

occupation, it is possible that not all stress encountered by farmers is harmful. A small amount of stress for farmers may be beneficial in order for them to perform well in their job and challenge themselves to achieve their goals.

The job demand-control-support model of work design is another occupational stress theory which is applicable to this study. This model was initially proposed by Karasek (1979) as the Job Demand-Control model and later expanded to include social support as a fundamental characteristic, and is now known as the Job Demand-Control-Support model (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010). This model explains how strain occurs in occupational settings. The job demands dimension in this theory refers to physical, psychological, social, or organizational aspects of the individual's job that require sustained physical and/or psychological effort or skills such as workload or time pressure. The job control dimension of this model refers to the extent to which a person is capable of controlling their tasks and general work ability and this can be further broken down into two major aspects. The first being skill discretion which is an individual's opportunity to use specific skills at work and the second being decision authority which is the extent in which a person is autonomous in task-related decisions (Häusser, Mojzisch, Niesel & Schulz-Hardt, 2010). In other words, the amount of strain a person experiences in their job depends upon how much control they have over the demands they have to deal with (Dewe et al., 2012). When combining both job demands and job control, jobs which are high on demands and low on control are considered high-strain jobs and have the highest risk of illness and reduced wellbeing. In contrast jobs low on demands and high control are considered low-strain jobs and negative stress reactions are unlikely (Häusser et al., 2010). This theory relates to farmer stress and coping as there are aspects of farming which can be easily controlled such as long hours of work or increased workload at peak times. However aspects of farming such as weather or adjusting to new government regulations may not be controlled as easily and consequently can cause more stress for farmers. These types of uncontrollable situations may influence the coping behaviours which the farmers engage in.

Stress in farming may have some differences from office type jobs as farmers live and work on the farm and also due to the physical nature of their occupation. Present day circumstances, such as increased economic stress, local and global policy and procedures, farm hazards, geographical isolation, community

issues and unpredictable factors have led to the nature of farming changing from peaceful to stressful (Melberg, 2003; Firth, Williams, Herbison, & McGee, 2007; Wallis & Dollard, 2008). These circumstances influence work stress and without adequate coping strategies, can lead to high levels of stress for New Zealand dairy farmers. The following studies that will be discussed look at stress in farming overseas and in New Zealand.

Some studies have examined occupational stress for dairy farmers in England and Australia. Raine (1999) explored stress in farming, looking at perceptions, causes and effects of stress in North Yorkshire. The results of this study showed that farming was becoming increasingly more stressful for the participants, and the findings suggested the main stressors discovered were paperwork and finance. The majority of participants in this study were affected by stress and reported effects which included tiredness, irritability, sleeping difficulties, job dissatisfaction, low mood and anxiousness. These negative effects of stress could also be outcomes of occupational stress for New Zealand dairy farmers, which can have detrimental effects if the farmers lack adequate coping strategies to deal with stressors such as increased administrative loads. Raine (1999) also reported that role conflict was recognised as a source of stress. Role conflict occurs when a person has to perform two differing roles that are not compatible. Role conflict can occur in numerous tasks such as tasks that one does not want to do, however, the results of this study suggested that attempting to deal with the causes of stress would be difficult for individuals as the causes of stress for farmers are not able to be easily changed. As paperwork increased, farmers in this study felt as though they were more like administrators than farmers. Increased administration may be an issue that New Zealand dairy farmers are struggling to deal with, as they have not yet developed coping mechanisms to deal with the changes in their role as a dairy farmer.

Wallis and Dollard (2008) investigated local and global factors in work stress for Australian dairy farmers. They found that when compared to other occupations, dairy farmers have high levels of stress due to economic and global political changes in the industry and psychological strain has increased with no systematic way to manage stress. Wallis and Dollard (2008) concluded that it appears that farmers have reached their limit for stressful demands that they cannot control, leaving the farmers vulnerable to decreasing farm productivity and health

(Wallis & Dollard, 2008). The predicament that farmers face is that they experience increasing demands over which they have little or no control such as global financial issues. These types of demands will influence the coping behaviours used by farmers to cope with the stress. Uncontrollable demands, like the ones Australian farmers face, could also impact New Zealand dairy farmers and the need for coping strategies to handle these issues is increasingly important.

In New Zealand limited research has been conducted which looks at stress in farming. Alpass, Flett, Humphries, Massey, Morriss and Long (2004) looked at stress experienced by New Zealand dairy farmers in relation to the adoption of new technology. Farmers in this study felt their highest levels of stress were due to time pressures, machinery breakdown, weather and government policies. Stress due to new technology was uncommon. However, there was an increase in stress due to new technology and government policy when age increased. The authors suggested that their findings regarding stress demonstrated the need for tailored stress interventions to meet specific stress needs in farming and greater understanding of stress which could only lead to better professional practice for the dairy industry. These types of stressors may also influence the participants in the current study and also impact the coping strategies that the participants engage in.

Another study investigating stress in farmers was Firth, Williams, Herbison and McGee (2006), which looked into stressors causing strain in New Zealand farmers. Firth et al. (2006) found that increased work load at peak times, such as calving, dealing with workers compensation, bad weather and complying with the Health and Safety in Employment Act were the highest scoring stressors in their study. Predictors of stress within this group of farmers included age, being separated or divorced, having to supervise staff, longer work hours and profitability in the last financial year. The authors also suggested that further research is needed to examine the coping strategies used to deal with the stressors they found. By examining the coping strategies to deal with these stressors, the authors hoped that the health of New Zealand farmers would improve.

Botha and White (2013) recently conducted similar research, examining distress and burnout among New Zealand farmers. They found that in 2006, 27 per cent of farmers worked over 70 hours per week. When compared with norms of 40 hours a week, distress in farmers is understandable. Farmers in this study struggled to cope with employment, staffing, and farm staff issues. Staffing issues are a source

of stress for many farmers, which may be heightened because many farmers have little or no training in managing staff. The authors suggested that seeking advice when appointing staff and undergoing training and support in managing staff will help many farmers to deal with farm staff issues (Botha & White, 2013). Farmers in this study preferred to talk to family or friends as a way to cope with stress, as only 33 per cent of respondents talked to a mental health professional when they felt stressed. This finding may apply to the current study. Social support from family or friends may be a coping strategy that dairy farmers utilise to cope with occupational stress. In another study, Botha (2012) found that the general challenges associated with dairy farming as a job, along with human relationship issues were the single factors which caused the most stress in NZ dairy farmers. Other issues which have been found to cause some distress in this study were financial issues and farmer health. However, stress due to a singular issue such as human relationship issues did not cause as much stress for the farmers as a cluster or group of factors. In other words, farmers felt the most stressed when there were multiple issues causing pressure, rather than just one issue. The type of stressor or stressors that New Zealand dairy farmers are coping with can influence the coping behaviours which they choose to use. When the stress is caused by multiple issues it may lead to confusion about the best coping mechanism to employ, which may lead to ongoing stress for the farmer. Ang (2010) has also researched occupational stress among New Zealand farmers, and found that; economic factors, adjusting to government regulations, labour shortage, effects of trade globalisation, climatic conditions and the size of the farm are stressors most prominent in the agricultural sector. A relatively low impact of stress due to geographical isolation was found, which means that isolation from others was not a cause of stress for these farmers. Ang (2010) reported that his findings were consistent with that of similar studies completed elsewhere, particularly England and Australia. As the findings of this study regarding the types of factors which are stressors for New Zealand dairy farmers link with other studies conducted in Australia, it is fair to assume that other studies conducted in Australia which look at coping strategies farmers employ may also link to New Zealand.

The transactional model of stress assumes that stress occurs as a process which links the stressor to the chosen coping behaviours. This occurs through the evaluation of the significance of stressor and of the resources available to the

individual to overcome that stressor. Common stressors that have been found for New Zealand dairy farmers include increased work load at peak times, poor weather, paperwork, government regulations and finances (Botha, 2012). The following section will discuss the coping strategies that farmers may use to deal with these stressors.

### **Coping**

People respond to stress in various ways. While it is recognised that some stress is necessary for optimum efficiency, it is also acknowledged that a high level of stress is destructive for individuals (Suresh, 2008). Coping with stressors in life is necessary as it assists with the facilitation of adaptation. This can help to reduce harmful environmental conditions, improve an individual's perspective on recovery and strengthen an individual and allow them to endure or adapt to negative circumstances and situations (Mitrousi, Travlos, Koukia, & Zyga, 2013). Coping is also important as a person lacking the adequate coping resources for a situation can become cognitively vulnerable to possible psychological problems (Montero-Marín, Prado-Abril, Piva Demarzo, Gascon, & García-Campayo, 2014). Based on these ideas it is important to establish coping strategies that dairy farmers use to deal with occupational stress. The identified coping strategies may be able to minimise or eliminate the negative effects of stress for dairy farmers.

As stated before, this study followed Lazarus' transactional definition of stress, which suggests that stress occurs when environmental demands or challenges are perceived by the individual to exceed their resources or capabilities. The key component of this definition is the individual's cognitive appraisal. As part of this process, cognitive appraisal occurs, which can be primary, the process of perceiving a threat to oneself, or secondary the process of determining how to respond to a stressor (Carver, Scheier, & Weintraub, 1989). Following these evaluations, coping takes place. Coping can be thought of as "ongoing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus, 1993, p. 237). It is important to remember that the fundamental element of this definition is appraisal, as an encounter is only as stressful as the individual believes it to be. This appraisal is more influential in the process than the objective characteristics of the event (Terry,

1994). Additionally, the energy used by the individual as a response is dependent on the importance given to the consequences of failing to deal adequately with the situation (Watson, Goh, & Sawang, 2011). The transactional approach to stress is widely accepted by researchers due to its relational focus, which makes it necessary to focus on the nature of the relationship between the environment and the individual, so that neither one is able to be ignored. In practical terms this means that an individual's coping behaviours cannot be fully understood without thinking about the stressful encounter as well (Trenberth & Dewe, 2004). The term coping is used in regards to stress whether the process is adaptive or not, successful or not. Adaptive refers to how effective the strategy was in improving the outcome for the individual (Lazarus, 1993). The transactional model of stress and coping is applicable to this study as it allows for individual differences in the stress process and coping, such as what kind of issues the farmers find stressful. This is important for this study as not all farmers will find the same issues or situations stressful, they also will not respond to the same issues or situations in the same way.

Coping research commonly divides coping behaviours into two types, problem focused and emotion focused coping. One coping response to stress is problem focused coping. This strategy combats a stressor by defining it, generating solutions, and then implementing solutions, which directly affect the stressor. The aim of this type of coping is to solve the problem or do something to alter the source of stress. While problem focused coping can seem relatively simple, it can involve many different activities such as planning, seeking assistance, screening out other actions, and taking direct action. Planning as a way of coping involves thinking about how to cope with a stressor, which includes contemplating what steps to take, coming up with action strategies and considering how best to handle the problem (Carver et al., 1989). Planning could be an effective coping strategy for dairy farmers if they are stressed about managing feed for their cows on the farm. As a way to cope with feeding their animals, the farmer might find it necessary to plan how they will go about feeding the animals sufficiently and effectively in order to minimise stress. Another problem focused activity which people may undertake is suppression of competing activities, which means putting other tasks aside to try and avoid being distracted by other commitments in order to deal with the stressor (Carver et al., 1989). Farmers might restrain from engaging other activities in particularly busy times of the year in order to cope with the increased work load.



Restraint coping is another strategy that falls under the problem focused coping umbrella which people may employ. Restraint coping occurs when a person waits until the appropriate opportunity to act presents itself, and not acting prematurely. Corbin, Farmer, and Nolen-Hoekesma, (2013) found that people who engaged in suppression of competing activities as well as restraint coping behaviours during times of stress were less likely to heavily consume alcohol, or use drinking alcohol as a way to cope. This type of coping may be applicable to dairy farmers in New Zealand. In times of stress, particularly when the stress is due to lack of time, suppression of competing activities may be an effective way for farmers to minimise stress. Alcohol consumption may be another strategy that farmers use when feeling particularly stressed, and they are not using other strategies to minimise that stress. Seeking social support could be considered problem focused coping as well, if the individual is seeking out advice, assistance or information (Carver et al., 1989). Social support of this manner is also known as instrumental support. This type of coping could be useful for a dairy farmer if the farmer is feeling stress due to the health of their cows for example, the farmer could then seek out advice or assistance from a veterinarian, therefore minimising the stress.

The second type of coping response is emotion focused coping. This strategy involves cognitive reconstruction, denial or wishful thinking about the problem, or distancing oneself from the issue. The aim of this type of coping is to reduce or manage the emotional distress associated with that stressor. This can be done by changing either the relational meaning of the situation, which relieves the stress even though the conditions of the exchange have not changed, or the way the stressful exchange is attended to, for example with avoidance or awareness. As stated before, seeking social support can be a problem focused type of coping. However it can also be emotion focused if the social support is for emotional reasons such as getting moral support, sympathy or understanding. Seeking social support can also include focusing on and venting emotions, but this type of coping which can be functional in some ways, can also be maladaptive (Carver et al., 1989). Venting can be maladaptive if the individual is repetitively using self-vindicating statements which can be self-limiting. This type of emotional social support could be used by farmers in relation to situations which they cannot control, such as weather. A farmer may vent about poor weather as a way to cope with the stress

felt from this situation and this may be an effective way for them to deal with the stress.

Humour has been linked to emotion focused coping strategies such as distancing oneself from the stressor. Abel (2002) found that people with a high sense of humour, appraised less stress and anxiety than those with a low sense of humour. Humour is associated with more adaptive coping as individuals tend to reappraise events as less threatening and more challenging (Abel, 2002). This could mean that farmers may use humour as a way of motivating themselves to overcome challenges, instead of finding stressful issues too difficult.

Although most types of stressors can lead to either type of coping, problem focused coping tends to occur when people feel that something constructive can be done, while emotion focused coping occurs when people feel that the stressor is something that must be endured (Carver et al., 1989). Research has shown that for coping to be effective, the strategy should be congruent with the controllability of the event. If the situation has some potential for control then problem focused coping will be more effective, if the situation has little potential for control then emotion focused coping will be useful (Terry, 1994). Therefore, the coping strategy which farmers choose to engage in will reflect their appraisal of the issue. Farmers may choose a problem focused strategy when they feel they have control over the situation, such as managing the feed for cows. However, farmers may choose an emotion focused strategy as managing the feed for cows might only be stressful due to weather.

In many studies, problem focused coping has been positively associated with psychological well-being (Terry, 1994) as taking action against a problem rather than just reappraising the meaning seems like a more beneficial method. However, Lazarus (1993) proposed that both problem focused and emotion focused coping can be either productive or counter-productive depending on the stressful encounter. For example, problem focused would not be considered an appropriate strategy if the stressful situation is chronic or uncontrollable (Montero-Marin et al., 2014).

Not all coping efforts lead to a positive outcome for the individual. Some strategies that a person engages in can be dysfunctional and unsuccessful, also known as maladaptive. Behavioural disengagement is a maladaptive strategy which refers to reducing one's attempt to deal with the stressor, or not attempting to

achieve the goal that the stressor is interfering with. People are more likely to behaviourally disengage from a situation when they are expecting a poor coping outcome. This behaviour is also linked with the construct helplessness. Helplessness is a behaviour that happens when an individual believes they have no control over a situation, and that they are helpless in challenging situations, therefore they give up trying. Farmers might resort to behavioural disengagement when struggling to cope with finances. Finances are a part of farming that the farmer does not always have a lot of control over, as they cannot control how much they get paid. Therefore this can lead to extreme stress for the farmer when expenses of the farm are larger than the income. Mental disengagement is another dysfunctional type of coping that is a variation of behavioural disengagement. This type of coping occurs when the person attempts to distract themselves from thinking about the personal goal with which the stressor is interfering, by using alternative activities to take one's mind off an issue such as escaping through sleep or by watching television (Carver et al., 1989). Farmers might use a technique like mental disengagement if they are feeling stressed about financial issues, particularly what they are going to get paid. Farmers might watch television in order to help them mentally disengage and stop worrying about the pay-out. Denial is another maladaptive strategy which an individual may employ. Denial involves refusal to believe that the stressor is real or happening. Denial might be a strategy that farmers use in exceptionally bad weather such as a drought. Alcohol consumption is a coping behaviour that may prevail in stressful situations for some people. People who lack adaptive coping strategies, or who tend to rely on avoidant type behaviours have been found to be more likely to engage in heavy alcohol consumption (Corbin et al., 2013). Alcohol consumption could be a coping mechanism that New Zealand dairy farmers engage in to deal with stressful situations that they cannot control. An example of this could be when farmers are required to complete paperwork. Paperwork is required to be completed by farmers, however they have no control over it. Therefore paperwork can be stressful. Paperwork is an example of stressor which may lead to alcohol consumption as a coping behaviour for a farmer.

A range of different personality traits has been found to lead to more consistent choices in terms of coping behaviours, such as neuroticism and locus of control (Terry, 1994). Other research has also shown that a tendency to be

optimistic or pessimistic influences how a person copes with stressful encounters (Lazarus, 1993). Optimism or pessimism as a trait would be reflected in how a person appraises a stressful situation, and consequently how they cope with the stressful situation. For example, a person who is optimistic would appraise a situation as challenging, while a pessimistic person might determine that a situation is too troublesome and they might choose to give up. Self-esteem has also been linked to coping decisions. People with high self-esteem rely on problem focused coping behaviours, while people with low self-esteem are more likely to engage in emotion focused coping, and adopt more avoidance types of behaviours. These results suggest that high self-esteem may be linked to a person's confidence in their ability to overcome issues (Terry, 1994). Personality traits may be applicable to this study as they influence the choice of coping strategy for an individual. Dairy farmers may choose strategies based on how confident they are that the coping strategy will result in a positive outcome.

Overall, coping mainly fits into two categories; problem focused or emotion focused. Both of these types of coping includes more specific behaviours such as planning, restraint coping, seeking social support and humour. These two types of coping relate to farming, as farmers may employ both of these types of strategies to minimise occupational stress. The effectiveness of the type of coping for the farmer is situationally dependent as problem focused coping may work best with one type of issue such as, managing staff, however emotion focused coping may work best with other type of issues such as issues caused by poor weather.

Efforts to find research which combined both stress and coping strategies for farmers produced only a few studies. Weigel and Weigel, (1987) identified the stressors and coping strategies in two generation farm families in Iowa. This study identified the differences in stress experienced and coping strategies used by different members of a two generation farming family. The authors of this study identified four types of coping strategies that the families engaged in. These strategies were faith, fun, talking and avoidance. Faith as a strategy involved acceptance of what could not be changed, having faith in god, analysing the problem, being flexible with issues, and encouraging each other. Fun was a strategy which included taking part in outside interests, visiting friends and physical activity. The coping strategy talking included having family meetings, talking to other families, talking to relatives and receiving help from professionals. Avoidance was

also a coping strategy found in this study and it included leaving the problem, procrastinating and venting about the issue. Although this study is not recent, these coping behaviours may also be used by dairy farmers in New Zealand to cope with work stress.

Caldwell and Boyd (2009) carried out a qualitative investigation on the impact of drought on rural families in Australia. The authors believed that it is vital to find better ways for farmers to cope as their traditional mechanisms are beginning to weaken. The authors found three master themes which linked to broad types of coping. The first master theme was problem focused coping, which included the behaviour planning ahead for future generations. Another master theme was psychological coping strategies. The major similarity with the psychological coping strategy was the ability to stay positive during tough times and included behaviours such as optimism, perceived vigour and cognitive dissonance reduction. Another coping strategy engaged by participants under the psychological coping theme was comparing their situations favourably with farmers in more disadvantageous conditions. The final master theme was collective coping strategies, which highlights the benefit of social support. This theme was about farmers drawing on those around them for support in times of stress. Participants in this study drew on support from family and community, as well as participation in community events to remind themselves that they were not alone in coping with the drought. The farmers also felt it was important to socially debrief with others and avoid negative social influences. Younger participants of this study suggested they felt they were more able to cope due to higher levels of energy and the sense that they were able to change careers without loss of identity. As other studies have noted similarities between New Zealand and Australian farming occupational stress, the coping mechanisms found to be used by the participants in Australia may be similar to those which New Zealand dairy farmers may use.

Overall, studies have found that farmers feel stress due to many factors related to their jobs. These include but are not limited to paperwork, changes in the industry, time pressures and weather (Raine, 1999; Wallis & Dollard 2008; Firth et al., 2006). Farming families in Iowa have been found to use faith, fun, talking and avoidance as coping strategies to deal with job stress (Weigel & Weigel, 1987). Whereas farmers in Australia have been found to engage in problem focused

coping, positive psychological strategies and social support to cope with occupational stress (Caldwell et al., 2009).

## **Research Aims**

While stress in farmers has been reasonably well studied, with similar results shown, efforts to discover research which identifies possible coping strategies that farmers use has only provided two sources (Weigel & Weigel, 1987; Caldwell et al., 2009). The Weigel (1987) study found that farming families engaged in faith, fun, talking and avoidance coping behaviours. The Caldwell (2009) study found that farmers affected by drought utilised strategies which included problem focused coping, optimism, positive appraisal and social support from family and community to deal with occupational stress. In previous research it was estimated that 50% of farmers who suffer from depression and 30% of farmers who suffer anxiety seek professional help. They usually seek help in the form of friends or family, who cannot provide evidence based treatments for stress (Botha et al., 2013). It has also been found that the typical behaviour of farmers is not to seek help when stressed, in fact Botha and White (2013) discovered that between five and 15 per cent of farmers in New Zealand sought out professional help in 2010-2012 farming seasons. Research to look into these potential coping strategies is vital to the dairy industry and New Zealand as it can help to improve farmers' mental health and lead to healthier work places. As dairy farming is a unique occupation, which could be due to the fact that farmers work and live at their workplace, previous research regarding coping strategies for stress at work in general, may have little application to the industry, and therefore coping strategies may not be as applicable to dairy farmers. Caldwell and Boyd (2009) suggested that for people who cannot separate work and home life, adopting constructive coping strategies is necessary to achieve good work-life balance. With an increasingly high rate of suicide in dairy farmers, which has been suggested to be symptomatic of the stressful environment in which farmers work (Raine, 1999), looking into identifying effective coping strategies for these farmers is important.

The aim of this study was to explore and identify coping strategies that New Zealand dairy farmers engage in to eliminate or reduce the effects of stress due to their occupation. By identifying the coping strategies that farmers use, information

about these strategies can be shared among farmers in the hope that the negative consequences of stress on these farmers will be minimised.

More specifically, it would be interesting to determine if farmers engage in more problem focused or emotion focused coping behaviours and also if control influences the coping behaviours that farmers choose to engage in.

## **Chapter Two**

### **Method**

An interview was conducted with New Zealand dairy farmers in order to identify coping strategies that they use to cope with occupational stress. A total of 12 people were asked to participate, and 11 took part in this study. All participants farmed in the Waikato region of New Zealand.

### **Participants**

Overall, 11 individuals participated in this study. The participants ranged in age from 27 to 51, with a mean of 39.9. The participants were milking a minimum of 200 cows and maximum of 640 cows. The participants had an average of 16 years of farming experience, with the minimum being eight years' experience and the maximum 23 years' experience. The criterion for inclusion in this study was that participants were dairy farmers who have a 50/50 sharemilking job, and this criterion was met as only 50/50 sharemilkers were approached to participate. The sample of dairy farmers was determined by convenience. Participants were chosen to be a part of this study based on their convenient accessibility and proximity to the researcher. Participants were contacted because they were on neighbouring properties or through colleagues of a relative who works in the dairy industry.

### **Measures**

Data was collected using mixed methods. A face to face, semi-structured interview was conducted first which was followed by two small questionnaires. The questionnaires were conducted immediately after the interview, in the same environment as the interview while the researcher was still present. The interview protocol was developed based on critical incident analysis of stressors (O'Driscoll & Cooper, 1994) and the questionnaires were quantitative measures that had already been developed (Cohen, Kamarck, & Mermelstein, 1983; Carver, 1997) and validated to measure perceived stress and general coping.



## **Interview Protocol**

The interview protocol was developed based on critical incident analysis techniques outlined by O'Driscoll and Cooper (1994). Critical incident analysis is designed to assess the interrelationships between stressors, coping behaviours and consequences. The intention for the qualitative interview was to gather in depth data about the coping behaviours used by New Zealand dairy farmers in order to examine how they cope with occupational stressors. Critical incident analysis involves asking individuals to describe stressful situations in terms of three elements, which were the stressor, the coping behaviour and the consequences of the coping behaviours. A sample of the interview protocol is presented in Appendix C.

Participants were initially asked to indicate what they felt were their top three stressors from a list developed from research completed by Firth, Williams, Herbison, and McGee (2007). The list contained ten stressors commonly found to cause strain for farmers. In depth questions, in three stages, were then asked which associated to the stressors as indicated by the participants. Firstly, participants were asked to describe a stressful situation in relation to one of the stressors which they indicated previously. They were then asked questions about that stressor to obtain a detailed description of how they believe that stressor has affected them and caused them strain. Secondly, participants were asked to describe the actions they took when they confronted the stressor. The key aim of this part of the questioning was to gather a specific description of what the individual did when they confronted the specific stressor. Lastly, the participants were asked about the consequences of their responses to the stressors, they were asked for a description of what happened after they responded to the stressor and how they felt their response helped to cope with that strain, in order to gauge the perceived effectiveness of a person's coping behaviours (O'Driscoll & Cooper, 1994). The set of questions was repeated three times, to cover the top three stressors of the participants which they revealed initially.

Critical incident analysis is beneficial as an interview technique as it allows for a more in depth description of the stress transaction because it investigates responses in terms of the stressor, rather than just a general description of coping

behaviours. This gives a more accurate portrayal of specific behaviours which individuals engage in as a response to stressful situations. This approach also allows for an in depth review of the effectiveness of the chosen coping behaviours used by individuals to deal with occupational stress (O'Driscoll & Cooper, 1994).

### **Perceived Stress Scale**

The Perceived Stress Scale gave an indication of the stress levels at the time of the interview. Perceived stress was measured using a 14 item scale developed by Cohen, Kamarck, and Mermelstein, (1983). The Perceived Stress Scale is designed to measure the degree to which events in one's life are appraised as stressful.

The items ask if respondents perceived their lives as unpredictable, uncontrollable and overloading. The measure also includes direct queries about an individual's current perceived stress levels, as it is presumed the level of appraised stress, not the objective occurrence of events that determines one's response to a stressor (Cohen et al., 1983). Each item was scored on a scale consisting of 'Never' (1), 'Rarely' (2), 'Sometimes' (3), 'Fairly Often' (4) and 'Very Often' (5).

The Perceived Stress Scale had a Cronbach's Alpha coefficient of .80 and was skewed .31. Field, (2013) notes that a Cronbach's Alpha coefficient value of .7 to .8 is an acceptable value. The skew value means that the data is approximately symmetric. The Perceived Stress Scale in this study has an acceptable value according to Field (2013). This acceptable value means that the Perceived Stress Scale is considered a reliable measure. Cohen and colleagues (1983) found coefficient alpha reliabilities of .84, .85 and .86, and the test re-test reliability was .85. The authors also found that the scale correlated in the expected manner with a range of self-report and behavioural criteria.

### **Brief COPE Scale**

The Brief COPE was used to assess the general coping strategies the participants use. Coping was measured using a 28 item scale developed by Carver (1997). The Brief COPE is intended to show what types of strategies an individual engages in to cope with stressful events.

Table 1. Brief COPE Scales

Scale	Example Question
Self-Distraction	I've been turning to work or other activities to take my mind off things.
Active Coping	I've been taking action to try to make the situation better.
Denial	I've been saying to myself "this isn't real."
Substance Use	I've been using alcohol or other drugs to help me get through it
Emotional Support	I've been getting comfort and understanding from someone.
Instrumental Support	I've been getting help and advice from other people.
Behavioural Disengagement	I've been giving up trying to deal with it.
Venting	I've been expressing my negative feelings.
Positive Reframing	I've been trying to see it in a different light, to make it seem more positive.
Planning	I've been trying to come up with a strategy about what to do
Humour	I've been making fun of the situation.
Acceptance	I've been learning to live with it.
Religion	I've been trying to find comfort in my religion or spiritual beliefs.
Self-Blame	I've been blaming myself for things that happened.

The brief cope consists of 14 scales, with two items for each scale, which measure 14 conceptually different coping reactions. The below table includes the scales measured by the questionnaire and an example question for each scale as a way to reflect what the scale is about. Each item was scored on a scale consisting of; 'Never' (1), 'Rarely' (2), 'Sometimes' (3), 'Fairly Often' (4) and 'Very Often' (5).

The Brief COPE in this study had a Cronbach's Alpha coefficient of .81, which is considered acceptable (Field, 2013) and was skewed .52. Reliabilities as found by Carver (1997) averaged across three samples to all exceed .50 which he regarded as minimally acceptable. In fact, all scales exceed .60 except for Venting, Denial and Acceptance. And exploratory factor analysis on the item set found nine factors with eigenvalues greater than 1.0, which accounted for 72.4% of the variance in responding. Use of Emotional Support and use of Instrumental Support formed a single factor. Active Coping, Positive Reframing and Planning items also loaded on a single factor.

Due to the small number of participants in this study, it was decided that the factors outlined by Carver (1997) would be used as a basis for analysis. Factor analysis would not be feasible with the limited amount of quantitative data collected. A general rule of thumb used for factor analysis is that there are at least ten participants per question in the questionnaire. As there were only 11 participants and 28 questions, a factor analysis would be implausible (Costello & Osborne, 2005). The factors examined were Active Coping, Planning, Positive Reframing, Acceptance, Humour, Religion, Using Emotional Support, Using Instrumental Support, Self-distraction, Denial, Venting, Substance use, Behavioural Disengagement and Self-blame.

## **Procedure**

The research and ethics committee for the School of Psychology at the University of Waikato granted ethical approval for this research. Firstly, participants were contacted either via phone call or email to invite them to participate in this study. The topic of the study and reasoning behind conducting it was explained to participants. When the participant agreed to be involved in the study, the information sheet, presented in Appendix A and consent form, presented

in Appendix B were sent to the participant via email, this ensured the participants had enough time to consider their involvement in the study. An interview time was then set up to take place at the participants' home. At the beginning of the interview, the information sheet was discussed with the participant to establish understanding and give the participants the opportunity to ask any questions they might have. The interview then took place following the interview protocol, presented in Appendix C. The more in-depth part of the interview took place first, following a critical incident analysis format that was outlined before. The interview was voice recorded with the permission of the participant for transcription after the interview. The interview began by asking about what kind of pressures the participants felt were the most disruptive to their lives. Following the establishment of the main stressors of the participants, questions around coping behaviours and strategies which the participants employ were asked. Following the interview the participant was asked to fill out the Perceived Stress Scale questionnaire and the Brief COPE questionnaire. Lastly, some brief demographic questions were asked, to gather some more descriptors of the data set.

The quantitative data gathered from the two questionnaires was analysed first. Due to the small number of participants, it was decided that a factor analysis would not be viable. The factors set out by the original authors would be adopted as the factors for this study. Frequency analysis was conducted to determine means and standard deviations. Correlation analysis was then conducted on the computed factors to determine if there was any correlation between and within the scales.

The information from the qualitative part of the interview was analysed last. The interview data were thematically analysed in order to find trends in the data which would highlight the coping behaviours that dairy farmers engage in. Analysis occurred following the phases of thematic analysis guide by Braun and Clarke (2006).

1. Initially, the data was transcribed and possible identifying characteristics were removed from the transcription in order to maintain anonymity. The transcripts were then read and re-read and initial ideas regarding the themes were noted.
2. Secondly, initial codes were generated across the entire data set. Initial codes were developed from the real responses of participants. A real response reflected the research aim; to explore and identify coping strategies that New Zealand dairy farmers engage in to eliminate stress, so only responses that

mentioned or discussed a participants coping responses were deemed as 'real'. The real responses were coded using a phrase or word which summarised the response. The program Nvivo was used to code the data, confirming codes as they appear. Nvivo is a qualitative data analysis computer program which is intended to help users organise or analyse unstructured or non-numerical data.

3. Thirdly, the data was initially themed, and all the relevant data for each theme was gathered. This occurred by grouping together the codes which are similar in nature, in Nvivo, to create the themes. Once the data was collated for the themes, they were then given names which summarised all the codes within them.
4. Fourthly, the themes were reviewed, in order to check if they reflected the coded data. The review was done by repeating the second and third steps again, to check to see if the data was coded the same and if the same themes were generated.
5. Lastly, analysis remained on going in order to refine each theme. A detailed description of each theme and distinct definitions and names for the themes were developed (Braun & Clarke, 2006).

## **Chapter Three**

### **Findings**

This chapter presents the findings of the thematic and statistical analyses. These analyses are separated into seven sections including the main themes and correlations of the Perceived Stress Scale and the Brief COPE. As a result of the thematic analysis undertaken, two major themes were identified which corresponded to four broad domains of coping, work focused coping and social focused coping. Other themes found were maladaptive coping and personal health coping. The results of the qualitative analyses are presented as separate themes, under the umbrella of the major themes. Overall, six themes were uncovered in this study. The themes are active coping, constructive thinking, leisure activities, social support, maladaptive coping and personal health.

### **Thematic Analyses**

#### **Major theme 1: Work focused coping**

Work focused coping was a major theme found in the qualitative responses on the participants of this study. This major theme included both the active coping and constructive thinking themes. This major theme focuses on coping behaviours that are aimed at directly influencing work related stressors to minimise the effect they have on individuals.

#### **Active Coping**

Active Coping is a type of problem focused coping that was reported to be used by dairy farmers in this study to cope with occupational stress. Active coping is a type of strategy which has been found in other studies (Carver, Scheier, & Weintraub, 1989; Caldwell & Boyd, 2009) and has similarities with Lazarus and Folkman's (1984) definition of problem focused coping. Carver and colleagues (1989) defined active coping as "the process of taking active steps to try remove of

circumvent the stressor or to ameliorate its effects. Active coping includes initiating direct action, increasing one's efforts, and trying to execute a coping attempt in stepwise fashion" (Carver et al., 1989, p. 268). The main behaviours which contributed to the active coping theme in this study are sourcing better staff, planning, problem solving, being conservative with money and gathering knowledge. Active coping falls under the major theme of work related coping as it encompasses active coping behaviours that were used to directly influence work related stressors.

All 11 participants in this study reported that they used some form of active coping to deal with the stress they felt from dairy farming. Active coping was referenced in Nvivo 68 times throughout all the interviews. This means that overall, the participants referred to or mentioned something to do with active coping 68 times in all the interviews. Active coping in this study would be considered a form of problem focused coping. It includes any type of strategy used by the participant to directly deal with the stressor and minimise or eliminate it. The participants engaged in many different tactics to cope with farming stressors. Table two below outlines the exact coping that was used by the participants, how many participants engaged in the behaviour and how many times it was talked about across the interviews. This table is presented in order of number of times a coping response was referred to.

Table 2. Active Coping Coding

<b>Coping Type</b>	<b>No. of Participants</b>	<b>No. of times referred to</b>
Sourcing better staff	5	10
Planning	5	9
Problem solving	4	8
Conservative with money	3	5
Gathering knowledge	3	5
Seeking advice	2	4
Received training	1	4
Tools to help	3	3
Seeking help	2	3
Being proactive	1	2



Active coping as a coping strategy for New Zealand dairy farmers is necessary as the individuals are engaging in behaviours which directly influence the strain which has been caused in an effort to minimise or eliminate that stress. The commonality between all these coping behaviours is that they are all about the individual making a conscious effort to engage in behaviours which will directly influence the stressor with the hope of decreasing or getting rid of the stress. The active coping strategies are attempts to directly target the cause of the stress and tackle the stressful problem which consequently will reduce the prevalence of that stressor for New Zealand dairy farmers.

Sourcing better staff is the most commonly used type of coping strategy included in the active coping theme. Sourcing better staff is a coping strategy that five out of eleven participants used in order to reduce or eliminate occupational farming stress. Sourcing better staff is about analysing current people management techniques used on farm and attempting to improve how the individual manages staff, so that the individual is able to better trust the staff to do their jobs properly without constant supervision which will result in a reduction of stress. By employing staff and managing them so they perform to their potential, the participants are able to reduce and even get rid of stress related to employing others. Participant five previously had only one labour unit on his farm. But the participant realised that he needed more help to fulfil his plans on the farm. He believes that by employing another person he was able to step back from day to day farming and focus on managing the farm better which minimised his occupational stress. He said:

*I didn't milk in the mornings, I had to spend a lot of time teaching the guys how to do things without me but that was, I needed to do that anyway to progress them, so it kind of worked out quite well. So I was able to go down and do other things, sort out the calving and springers and stuff. And that took a heap of stress off.*

Staffing issues are something which many participants felt causes them stress. Many participants found it difficult to trust their employees to do what needed to be done if they left the employee without supervision, so that they could carry out other tasks. Engaging in the coping behaviour of sourcing better staff is

necessary for dairy farmers to do, as they need to feel that they have adequate people to help them do their job and they also need to be able to manage them effectively. New Zealand dairy farmer actively try and get the best staff and try to get them to work the best they can in order to reduce the stress they feel around staffing.

Planning is a coping behaviour that five out of eleven participant engaged in as a way to reduce or eliminate occupational farming stress. Planning is a beneficial coping behaviour for dairy farmers to use, as it requires the farmers to think about what they want to accomplish and what they need to do in order to achieve that wish. This dispels the uncertainty around the farmer's day, and allows them to be more efficient in the way they work. Participant one believes that planning is essential in order to try and work with the stress that he felt due to poor weather. He said:

*But you just keep at it, you're always looking to see what the weather forecast is so you know what's coming, you predict as much as you can for the next day or the next couple of days, always thinking ahead and planning what you're going to do to try and get through.*

Making plans is a useful coping behaviour for New Zealand dairy farmers to engage in to reduce stress. There are many components of planning which make it a useful behaviour when it comes to stress. Firstly, actually making a plan makes you stop and think about what you have to do, which gives the individual more clarity around the issue. The individual then has to think about what to do fix the issue, which gives them confidence as they know they are able to do the job. And by finally completing the plan, the individual will have positive feelings as they are able to cross that task of their list, and be certain in the fact that they can overcome challenges. This is why New Zealand dairy farming engage in planning as a coping strategy to reduce stress.

## Constructive Thinking

Constructive thinking is a type of emotion focused coping found to be used by participants in this study. This type of coping not aimed at handling the stress, but more concerned with managing the stress emotions felt by the individual (Carver et al., 1989). Constructive thinking can be defined as “automatic thinking that contributes to effective coping with everyday problems in living at minimal cost in stress to the individual” (Cox, 1995, p. 4). This theme comprises of cognitive adaptation behaviours engaged in by the participants such as; setting goals, resilience and looking forward to less stressful times. These behaviours are used with the aim of reducing the effects of stress on the individual. Constructive thinking fits within the work related coping major theme as it encompasses behaviours that modify the individuals thinking in order to motivate them to overcome farm related challenges.

Ten participants in this study reported that they used some form of constructive thinking strategy to cope with the stress they felt from dairy farming. Constructive thinking was referenced 52 times throughout all the interviews. Constructive thinking is a coping strategy which includes cognitive reframing and positive thinking in order to minimise the effect of the stressor on the individual. This would be considered an emotional focused coping strategy. Table three below, outlines the exact coping that was used by the participants, how many participants engaged in the behaviour and how many times it was talked about across the interviews.

Table 3. Constructive Thinking Coding

Coping Type	No. of Participants	No. of times referred to
Goals	5	13
Acceptance	6	9
Resilience	4	7
Thinking Ahead	3	6
Looking forward	4	5
Having something to look forward to	3	5
Keeping things in perspective	1	1

Constructive thinking as a coping strategy for dairy farmers is useful as it helps to minimise the effects of the stressors in the cognitive appraisal stage of coping. This means that when the individual adjusts their assessment of the stressor and the resources available to the individual to deal with the stressor. It provides options for the individual to rethink the stressor and what the stressor really means to them at work and in their overall life. The commonality between all these behaviours is that they are all based on an individual's thinking. The constructive thinking strategies are cognitive efforts to decrease the impact of a stressor on the individual through reframing of the issue or situation, or thinking about the future as a way to remind the individual of the real importance of the issue for them.

Goals is a type of behaviour that five out of eleven participants used. This involves setting a goal or milestone to work towards on the farm, which is a powerful process because it provides focus and allows people to push themselves further than what they believed was possible. The goals that the participants used could be both long term and short term. Goals represent how an individual interprets and attends to stressors, therefore they influence how that individual copes with that stressor (Elliot, Thrash, & Murayama, 2011). Participant three is an individual who uses goal setting as a way to minimise the stress he feels due to his farming career. He believes that having set goals throughout the year allows him to see that he is heading in the right direction to his longer term goals. He said:

*So if you know that you don't have to worry, if you're getting them. And then if you know, if you're not quite achieving it. Having small milestones so you can tick things off, and also when you can see that things are going wrong, you can go and seek advice real quick. And it's not about knowing everything, it's about knowing who to call.*

Setting goals is a useful behaviour as part of the constructive thinking theme as it creates certainty for the farmers around their plan for the season, which will align with their long term goals and provide motivation to get through more difficult situations to achieve the set goals. Alignment with long term goals can be more difficult than achieving a short term goal but can have a bigger impact on the individual. Farmers use this coping behaviour to minimise occupational farming stress.

Resilience is a coping behaviour that three out of eleven participants engaged in to help with the strain they felt from occupational stressors. Resilience is an ability that allows some people to be knocked down by life and come back stronger than ever. Resilience is an ability characterised by both psychological and behavioural components; the behavioural component allows people to focus and work productively, while the psychological component of resilience preserves the individuals mental health and wellbeing (Robertson & Cooper, 2013). Participant one had a resilient mind set. He attempted to stay strong when faced with adversity which he believes is necessary in farming. He said:

*No, you can't let it beat you. Otherwise you'll... yea. Well that's one of the challenges of farming I think. I mean some little things will beat you, because you're not always going to get everything perfect. You might get something not quite right but at the end of the day you've just got to keep at it, and keep in front of it.*

Resilience is a useful behaviour for dairy farmers to engage in to reduce or eliminate occupational stress as it encourages a feeling of endurance, as well as a strong willpower to adapt or weather the stress which the farmer is experiencing. Dairy farmers engage in this type of thinking in order to minimise occupational farming stress.

Constructive thinking was a theme found within the coping behaviours of the participants of this study. These behaviours can be grouped together as a theme as they all involve the individuals being reflective of situations and reviewing how they appraise the issue. These strategies are considered emotion focused coping behaviours as they involve the individual being flexible in the way that they mentally process issues in order to overcome occupational stress.

## **Major theme 2: Social related coping**

Social related coping was a major theme found in the qualitative responses on the participants of this study. This major theme included both the leisure activities and social support themes. This major theme focuses on coping behaviours that utilise social networks and groups, which can be found through

leisure activities and people in the community, to be a source of strength for an individual.

### **Leisure Activities**

Leisure activities are a commonly recognised way to cope with stress. Leisure can be an important action as means of helping someone cope with stress and maintain or improve their health. Leisure contributes to stress coping in many ways, this includes, leisure-generated self-determination disposition, taking a break from a stressful problem and leisure can also provide an opportunity to enhance positive mood or reduce negative mood (Iwasaki & Mannell, 2000). Leisure can also help as a way of coping with stress as it can act as a buffer between the negative effects of stress on one's health and wellbeing (Iwasaki & Schneider, 2003). Dairy farmers in this study engaged in behaviours such as personal hobbies, spending time with family and simply getting off the farm as a form of leisure, and as a way of coping with occupational stress. Leisure activities fit within the social related major theme as it encompasses behaviours are about getting off farm to spend time with others in a recreational environment.

All 11 participants reported that they engaged in some form of leisure activity to help to cope with the stress they felt from dairy farming. Leisure activities was referenced 67 times throughout all the interviews. Leisure activities as a coping strategy in this study is a way that the individual can remove themselves physically and mentally from their job, and focus on something else which they enjoy doing, instead of always concentrating on the farm which can minimise stress. Table four, below outlines the exact coping that was used by the participants, how many participants engaged in the behaviour and how many times it was talked about across the interviews.

Leisure activities as coping strategies for New Zealand dairy farmers are useful as the individual has time for themselves outside of their job. A major difference between dairy farming and an office job is that a farmer lives on the job, therefore it can be very difficult for them to shut off from the responsibility of their job and have some personal down time. Engaging in some form of leisure activity allow the individual to have some time to themselves, doing something they enjoy and can lead to better work life balance. Although a lot of the leisure activities in

this theme seem as something that can be used as avoidance coping strategies, the participants in this study believed that it was essential for them to have time actively doing something they enjoy off the farm. By doing this it allows them to come back to the farm, and their job with a better mind set and have more energy, which they can then apply to their job and the stressors which the individual is attempting to cope with.

Table 4. Leisure Activities Coding

<b>Coping Type</b>	<b>Related Coping Type</b>	<b>No. of Participants</b>	<b>No. of time referred to</b>
Hobbies		8	32
	Fitness	3	13
	Hunting	2	8
	Fishing	2	6
	Cars	3	4
	Reading (non farming)	1	1
Get off farm		7	12
Spending time with Family		8	11
Watching sport		3	4
TV		3	3
Holidays		3	3
Shut off		2	2

Getting off farm is a behaviour that seven out of eleven participants engaged in. Getting off farm is an important coping strategy for farmers to engage in, as it can be difficult to cope with stressors when you reside and work in the same place. A leisure activity like getting off farm contributes to stress coping as the individual is able to take a break from a stressful problem (Iwasaki & Mannell, 2000). Stepping back from a problem allows the individual to clear their head and come back to the issue with a better frame of mind. If you remain in physical proximity to something that causes you stress you will not have the mental capacity to focus on your

thoughts. Participant four believes that taking himself off the farm is essential in order to have some balance between work and life. He said:

*I think it is important to get off the farm because with farming, you're actually living and breathing it all the time. You only have to look outside and you're working again. So I find for me, I just have to say 'right, I've got to get off the farm for a few hours'. I find that helps. And you always come back a bit fresher. And I think being on the farm you tend to overthink things a little bit as well. And if you can actually get away and think about something else for a while, rather than what's going on outside.*

Getting off farm is necessary for any farmer to do so they can attempt to have some balance between work and life. Getting off farm also means that farmers will not isolate themselves from things and people that can help them to feel better. Dairy farmers engage in leisure activities in order to reduce or eliminate occupational farming stress.

Leisure activities is a theme found in the reported coping behaviours of the participants in this study. These behaviours can be grouped together as a theme as they all involve the individuals taking some time away from working to do things for enjoyment or relaxation. These strategies are considered emotion focused coping behaviours as they involve the individual restoring some balance between work and life which improves the mood of the individuals.

### **Social Support**

Social support is a coping mechanism which has been found to influence health and mental health directly and as a buffer to perceived stress. Social support as a tool for coping “usually refers to tasks performed for an individual by significant others, such as family members, friends, and co-workers” (Thoits, 1995, p. 64). Studies have found that social support for coping is associated with improved physical and mental health and often buffers the negative impacts of stress. (Thoits, 1995). Social support was used by participants in this study as a way for them to cope with occupational stress by comparing their situation to others, discussing farming with other farmers, and socialising with friends and family. Social support



fit within the social related theme as it encompasses behaviours that draw on the support from the people around them for advice, empathy and assistance.

All 11 participants used some form of social support in order to cope with the stress they felt from dairy farming. Social support was referenced 60 times throughout all the interviews. Social support can be divided into two forms; instrumental support and emotional support. Instrumental support is a coping strategy which means that the individual is seeking social support about an issue and looking for advice about that issue. Instrumental support would be considered a type of problem focused coping, as the individual is doing something which will directly minimise or eliminate the stressor. Emotional support is a strategy in which the individual seeks social support about how they are feeling about a stressor. Emotional support would be considered a type of emotion focused coping, as the individual is doing something to minimise the effect that the stressor has on them (Carver et al., 1989). Table five below outlines the exact coping that was used by the participants, how many participants engaged in the behaviour and how many times it was talked about across the interviews.

Table 5. Social Support Coding

<b>Coping Type</b>	<b>Related Coping Type</b>	<b>No. of Participants</b>	<b>No. of times referred to</b>
Instrumental Support		10	25
	Talking about farming	8	14
	Community Support	5	11
Emotional Support		11	16
	Comparing to others	7	10
	Venting	3	3
	Church	1	3

Social support as a coping strategy for New Zealand dairy farmers is useful as it means that an individual does not have to deal with stressor on their own, they can call on the comfort and advice of family and friends. The first type of social support found in this study is instrumental support. Instrumental support is a more

problem focused type of social support as they individual attempts to gain advice or help through others, which has a direct influence on the stressor. The commonality between all these strategies is that they all involve the individual receiving advice or guidance from others in order to help them deal with occupational stress.

Talking about farming is a coping strategy that eight out of eleven participants engaged in. Talking about farming is a form of instrumental support as it is about discussing the individual's current farming situation and receiving guidance and aid from people who are familiar with the stress felt by the individual and are able to help. Participant three talks to other farmers as a way to cope with the stress he feels due to farming. He believes that communication with others is important as a way to justify how you are carrying out your roles. He said:

*So you talk about, talk to your mates about what you're up to and how you're doing it, and what they're up to and they can give you a different perspective on what you're doing. Or "oh na, I don't worry about that" or "you need to sort that out". There's a couple of different options that we do. Communications a big thing for me.*

Talking about farming is a strategy that the participants in this study used to minimise feelings of stress. By discussing farming, the individuals were able to get the issues which were weighing them down off their chest and they are able to learn about other people's situations and what the other people do in similar situations.

Comparing to others is a coping behaviour that seven out of eleven participants used in order to reduce or eliminate occupational farming stress. Comparing to others is a form of emotional support as it is about utilising tools to maintain the individual's mental health during stressful periods. The aim of the behaviour for the individual is to evaluate how another person is running their farm, and scrutinise the other persons methods to leave the individual feeling as if they are in a similar or better situation than the other person. Participant eight used this technique in order to improve his mood about his job. He believes that reminding yourself that you are in the same position as others is beneficial to coping with farming stress. He said:

*You know discussion groups that you can go to and catch up with other people, or see your neighbours and see that they're going through the same thing and its...when you have discussion groups and talk to your neighbours and they're all going through the same sort of thing, it kind of takes a bit of that pressure off, you know feeling like you're not the only one, that sort of a lot of people are going through it, it does help a lot.*

Comparing to others is a behaviour that individuals use as a way to remind themselves that they are not the only one experiencing the same situations, which makes the individuals feel better. This is a useful strategy for dairy farmers to engage in when they come across stressful situations that they are unable to change, for example bad weather.

Social support was a theme found within the coping behaviours of the participants in this study. These behaviours can be grouped together as a theme as they all involve the individuals relying on others for support. These strategies can be considered both problem and emotion focussed coping behaviours as they involve the individuals seeking the advice, comfort and reinforcement of others to improve their mood and motivation so they are able to overcome occupational stress.

### **Maladaptive Coping**

Maladaptive coping was a type of coping which was found to be used by some dairy farmers in this study. This theme encompasses coping behaviours used by the participants which do not allow an individual to adapt in any way to the stressor. The behaviours encourage denial, disengagement and avoidance of the stressor. These type of responses orientate the individuals thoughts and emotions away from the stress, so that they are not dealing with the stressor at all (Skinner, Edge, Altman, & Sherwood, 2003). The main behaviour which contributed to this theme are supressing feelings, avoidance and consuming alcohol.

Eight participants reported that they engaged in some form of maladaptive coping in order to cope with the stress they felt from dairy farming. Maladaptive coping was referenced 38 times throughout all the interviews. Maladaptive coping as a theme encompasses range of behaviours which can interfere with an

individual's progress in dealing with stress in a more positive manner. The behaviours included in this theme only offer temporary relief to a stressor, and do not allow the individual to develop the skills to deal with the stressor the next time it arises. Table six below outlines the exact coping that was used by the participants, how many participants engaged in the behaviour and how many times it was talked about across the interviews.

Maladaptive coping as a coping strategy for New Zealand dairy farmers is not useful as it is dysfunctional and non-adaptive. This means that the behaviours included in this theme do not allow the individuals to adapt and increase functioning. Instead they temporarily cease the symptoms while the stressor remains the same or increases its effect. The commonality between the behaviours within this theme is that they are simply masking the symptoms of stress and helping the individual to ignore the stressor and do not do anything productive to reduce the stressor.

Table 6. Maladaptive Coping Coding

<b>Coping Type</b>	<b>Related Coping Type</b>	<b>No. of Participants</b>	<b>No. of times referred to</b>
Avoidance		5	17
	Doing something unrelated	3	10
	Doing nothing	2	4
	TV	3	3
Utilising substances		5	13
	Drinking	4	10
	Food	1	2
	Chocolate	1	1
Suppressing feelings		4	7
Distraction		1	2
Anger at situation		1	1

Suppressing feelings is a coping strategy that four out of eleven participants engaged in as a way to deal with occupational farming stress. Emotion suppressing

is a coping strategy that some individuals may employ mistakenly thinking it is a good thing to do, however it is essentially avoiding the emotions that the individual is feeling and not letting adaptive coping occur. Participant eight attempts to suppress his feelings of stress on the farm, and he realises that it's not an adaptive way to cope. He said:

*I try to sort of keep it in and then you realise after a bit and it's generally because you're tired or whatever and you get a little bit frustrated with things, and then one little thing will tip you over, but it's pretty important not to let all that effect everybody else.*

Suppressing feelings is a behaviour that some farmers engage in as a way to try and deal with their occupational stress. However this is a form of maladaptive coping as at some point these emotions will re-emerge and the individual will be worse off as they will not understand why the feelings have come back and they still may not have developed ways to deal with them.

Drinking alcohol is a coping strategy that four out of eleven participants engaged in a way to cope with occupational farming stress. Consuming large amounts of alcohol as a coping behaviour, has been linked to high levels of stress (Corbin et al., 2013). The participants in this study consumed alcohol as a way to socialise with others and as a way to help to forget the stress they feel because of the farm. Participant ten used drinking alcohol as a way to cope with occupational stress. He believes that drinking alcohol helps him to feel better. He said:

*Well it just gets you off the farm and stops you thinking about farming for a while and it relieves a bit of pressure. And it's not the drinking, it's probably more the socialising as anything, just getting off the place and stuff.*

Drinking alcohol is a coping strategy that many farmers engage in. This coping strategy is not adaptive as it is just allowing the individuals to forget about their stress for a small amount of time, however it can be slightly beneficial if there is socialising involved which could lead to instrumental or emotional support for the farmers.

Maladaptive coping was a theme found within the coping behaviours of the participants in this study. These behaviours can be grouped together as a theme as they all involve the individuals engaging in behaviours which do not deal with the stress and only help to distract the person from the stress. These strategies are considered maladaptive coping behaviours as they involve the individuals reducing the symptoms of stress for a short amount of time, but they increase dysfunction and can increase the severity of the stressor.

### **Personal Health**

Personal health is a group of coping behaviours reported to be used by some of the dairy farmers in this study. Personal health as a theme in this study encompasses behaviours which focus on maintaining the individual's physical and mental health so that they can attempt to manage the symptoms of the stressor or cope with the stressor. Behaviours included in this theme are taking adequate breaks during the day and getting enough sleep.

Six participants said that they engaged in some form of looking after personal health in order to deal with the stress they felt from dairy farming. Personal health is a coping strategy which is about an individual ensuring their good health so that they are able to physically execute all of the tasks required by their job, now and in the future. Table seven below outlines the exact coping that was used by the participants, how many participants engaged in the behaviour and how many times it was talked about across the interviews.

Table 7. Personal Health Coding

<b>Coping Type</b>	<b>No. of Participants</b>	<b>No. of times referred to</b>
Taking breaks	6	11
Sleep	3	6
Eating properly	1	1
Look after yourself	1	1

Personal health as a coping strategy for New Zealand dairy farmers is useful as focusing on having better personal health can allow an individual to perform

better in their occupation as they are healthier and have more energy. The commonality between these coping behaviours is that they relate to managing the individual's health in some way, and ensuring that the individual is in good health so that they are physically able to complete the tasks required of them on farm. Farmers try to maintain personal health in order to cope with occupational stress.

Taking breaks is a coping strategy that six out of the eleven participants used as a way to reduce or eliminate occupational stress. Taking sufficient breaks during the work day is important for participants to do as it allows them a small amount of time to rest and recuperate. This helps minimise stress as they have time to plan their day and make sure that they have enough energy to carry out tasks to the standard which they have set themselves. Participant three believes that breaks are important as a farmer for many reasons. He said:

*What's happens is when you get a little bit out of control or things don't really work out, you tend to drop breakfast and that's the first sign for me that things are out of control. And that's when my routines come back into play, you have to milk, get the jobs that has to be done, go home for breakfast. Sometimes you can have a short breakfast, but never miss that breakfast. Otherwise you start getting fatigued. Just because you're having breakfast doesn't mean, at a management level that you're doing nothing. You're actually just taking a moment to plan your day.*

Stepping away from work for a small while is a strategy that some participants engaged in. Taking breaks is vital for farmers to do and the consequences of doing so can be far-reaching. By taking a small break it helps the individual to relax and recharge and will help them to be more, not less productive.

Sleep is a strategy that three out of eleven participants felt was important as a way to reduce or eliminate occupational stress which is included in the theme of personal health. Insufficient sleep can have negative effects on individual's personal health and cognitive functioning such as decreased alertness, attention and concentration (Killgore, Kahn-Greene, Lipizzi, Newman, Kamimori & Balkin., 2008). Lack of sleep can lead to increased stress levels, and can hinder individuals from adequately performing in their job due to mental and physical fatigue. Participant three aims to minimise sleep deprivation in order to cope with

occupational stress. He believes that a good sleep is essential in order to do his job. He said:

*I think that's a big thing about stress and hours of work is that you need to be in charge of yourself and sleep is huge. So I just work backwards from the time I'm getting up, it doesn't matter if you get up at seven o'clock in the morning, six o'clock in the morning or four o'clock in the morning you have to have eight hours sleep.*

Getting adequate sleep is an important strategy for dairy farmers to engage in. By getting a good night's sleep the body and mind can heal and reenergise so that the individual is able to give more to their job. This helps the farmers reduce stress as they can think and physically perform better than if they were tired.

Personal health is a theme which was found within the coping behaviours of the participants in this study. These behaviours can be grouped together as a theme as they all involve the individuals trying to optimise their health so that they can physically and mentally complete what they need to in terms of their job. These strategies are considered problem focussed coping behaviours as they involve the individuals making sure they are physically able to complete tasks in order to overcome occupational stress.

## **Statistical Analyses**

### **Descriptive Statistics**

Descriptive statistics were calculated for all variables including means, standard deviations, skew and Cronbach's alpha. These are presented in Table eight. Both the Perceived Stress Scale and Brief COPE were scored on a five point scale ranging from 'Never' (1) to 'Very Often' (5).

The means across all variables range from 1.41 to 3.64, as illustrated on Table eight. The Perceived Stress Scale shows that reportedly on average farmers were only moderately stressed at the time of this study ( $M = 2.43$ ,  $SD = .39$ ). The Brief COPE questionnaire shows on average, a reported high use of Planning ( $M = 3.64$ ,  $SD = .67$ ), Active Coping ( $M = 3.60$ ,  $SD = .66$ ), Acceptance ( $M = 3.55$ ,  $SD =$



.69) Positive Reframing (M= 3.50, SD= .67), Self-Distraction (M= 3.36, SD= .39), Humour (M= 3.18, SD= 1.01) and Instrumental Support (M= 3.00, SD= .74) coping strategies. The Brief COPE questionnaire also shows on average, a low reported use of Denial (M= 1.41, SD= .49), Behavioural Disengagement (M= 1.50, SD= .71), Substance Use (M= 1.82, SD= 1.17), and Religion (M= 1.86, SD= 1.25) coping strategies.

Table 8. Descriptive Statistics

	<b>Mean</b>	<b>Std. Dev</b>	<b>Skew</b>	<b>Kurtosis</b>
Perceived Stress Scale	2.43	.39	.31	-.23
Self-Distraction	3.36	.39	-.94	1.65
Active Coping	3.60	.66	-.71	-.60
Denial	1.41	.49	.43	-2.10
Substance Use	1.82	1.17	2.27	6.16
Emotional Support	2.73	.85	.62	.58
Instrumental Support	3.00	.74	-.45	-1.52
Behavioural Disengagement	1.50	.71	1.30	.60
Venting	2.77	.61	.69	.29
Positive Reframing	3.50	.67	-.30	-1.11
Planning	3.64	.67	-.30	-1.20
Humour	3.18	1.01	-.43	2.03
Acceptance	3.55	.69	.93	.08
Religion	1.86	1.25	1.28	.42
Self-Blame	2.18	.81	.98	1.57

### **Correlations**

Correlations between the variables from the Perceived Stress Scale and the Brief COPE scale were calculated and present in table nine below. There were no significant correlations between the Perceived Stress Scale and the Brief COPE Scale. This indicates that the Perceived Stress Scale and the Brief COPE scale were measuring different constructs as intended.

Table 9. Correlations of Stress and Computed Coping

	PSS	Self-D	AC	Denial	SU	ES	IS	BD	Venting	PR	Planning	Humour	AC	Religion	Self-B
<b>PSS</b>															
<b>Self-D</b>	.32														
<b>AC</b>	.25	-.04													
<b>Denial</b>	.41	.32	.34												
<b>SU</b>	.15	.16	.09	-.03											
<b>ES</b>	-.07	-.20	.40	-.49	-.06										
<b>IS</b>	.14	.00	.51	-.41	.12	.84**									
<b>BD</b>	.48	.18	-.11	.29	-.30	-.08	.00								
<b>Venting</b>	.32	-.14	.68*	.18	-.14	.50	.61*	-.06							
<b>PR</b>	-.30	-.19	.56	-.23	.45	.44	.55	-.26	.12						
<b>Planning</b>	.15	-.30	.58	.27	-.54	.12	.05	.26	.27	.17					
<b>Humour</b>	.30	.01	.38	.34	-.65*	.24	.10	.63*	.20	-.11	.77**				
<b>AC</b>	-.30	-.44	.54	-.28	.14	.71*	.49	-.10	.21	.76**	.36	.20			
<b>Religion</b>	-.33	-.20	.14	-.31	-.33	.72*	.49	.34	.12	.30	.14	.46	.50		
<b>Self-B</b>	.37	.01	.15	.55	-.49	-.07	-.25	.83**	.04	-.27	.63*	.78**	-.02	.20	

Note: PSS= Perceived Stress Scale, Self-D= Self Distraction, AC= Active Coping, SU= Substance Use, ES= Emotional Support, IS= Instrumental Support, BD= Behavioural Disengagement, PR= Positive Reframing, AC= Acceptance, Self-B= Self-Blame

N= 11

\*= significant at the  $p < 0.05$  level

\*\* = significant at the  $p < 0.01$  level

Emotional Support significantly positively correlated with instrumental support ( $r=.835$ ,  $p<.01$ ) and religion ( $r=.718$ ,  $p<.05$ ). This implies that people who engage in emotional support are also highly likely to engage in instrumental support and religion as a way to cope with stress as well. Emotional support also significantly positively correlated with acceptance ( $r=.710$ ,  $p<.05$ ) which implies that with the support that friends and family provide, people are then capable of accepting their situation. Instrumental support significantly positively correlated with Venting ( $r=.611$ ,  $p<.05$ ). This means that as instrumental support behaviours increase, so do venting coping behaviours. Instrumental support also moderately positively correlated with Positive reframing ( $r=.553$ ,  $p<.05$ ). This correlation implies that individuals who experience instrumental support are then able to reappraise their situation in a more positive light. These correlations provide support for the social support theme which includes both emotional and instrumental support.

Active coping significantly positively correlated with venting ( $r=.677$ ,  $p<.05$ ). This implies that as active coping behaviours increase so to do venting behaviours. Active coping also moderately positively correlated with instrumental support ( $r=.508$ ,  $p<.05$ ), positive reframing ( $r=.561$ ,  $p<.05$ ), planning ( $r=.584$ ,  $p<.05$ ) and acceptance ( $r=.538$ ,  $p<.05$ ). These findings support the active coping theme, as these coping behaviours are all included in the active coping theme. This suggests that farmers engage in many forms of work related coping in order to minimise stress. Planning also significantly positively correlated with humour ( $r=.770$ ,  $p<.01$ ) and self-blame ( $r=.633$ ,  $p<.05$ ). These correlations suggest that engaging in planning can increase a farmer's amusement in relation to an issue, but it can also increase criticism of themselves.

Substance use significantly negatively correlated with humour ( $r=-.650$ ,  $p<.05$ ) which means that as humour increase, substance use decreases. Substance use also moderately negatively correlated with Planning ( $r=-.537$ ,  $p<.05$ ). This implies that substance use decreases the use of adaptive coping behaviours such as planning. Behavioural disengagement significantly positively correlated with humour ( $r=.632$ ,  $p<.05$ ) and self-blame ( $r=.825$ ,  $p<.01$ ). These correlations suggest that as a farmer behaviourally withdraws from an issue his amusement related to the issue can increase, but he will also criticise himself more as well. These findings link to the maladaptive coping theme.

## **Chapter Four**

### **Discussion**

The aim of this research was to identify coping strategies that New Zealand dairy farmers reported using to cope with stress they felt from their jobs. New Zealand dairy farmers are currently experiencing very challenging times, with increasing running costs and decreasing income due to current global economic issues (Botha, 2012). Determining what coping strategies New Zealand farmers engage in to minimise the negative effects of stress may help to combat the declining mental health of the farmers and the alarming number of suicides in the dairy industry (Raine, 1999).

This chapter is divided into ten sections. First a complete overview of findings will be given, followed by a review of the strengths and limitations of the current study. The implications of the research will then be outlined and discussed. Based on the findings, possible directions for future research will be offered. Finally, conclusions from this research will be drawn.

Six main themes were derived from the interview responses in this study, and some were grouped together to form two major themes. Work related coping is the first major theme which includes both the active coping and constructive thinking themes. Social related coping is the second major theme and it incorporates the leisure activities and social support themes. Maladaptive coping and personal health were other themes which were found. Active coping, leisure activities and social support were the most commonly used coping strategies and were reported used by all 11 participants. Constructive thinking was reportedly commonly used by ten participants. Maladaptive coping was reported by eight participants and personal health coping was reportedly discussed by six participants in this study. These were the least reported coping strategies.

#### **Major theme 1: Work related coping**

A major theme found in this study was work related coping. Work related coping in this study referred to coping behaviours used by the participants which directly influenced stress felt by the participants due to situations or issues on the

farm. The exact strategies included in this major theme were active coping and constructive thinking. These strategies combine to create this major theme as they are both forms of problem focused coping, the problem causing the stress being farm related strain.

### **Active Coping**

Active coping was a theme found in the reported coping strategies that these New Zealand dairy farmers use for occupational stress. Active coping can be defined as “the process of taking active steps to try remove or circumvent the stressor or to ameliorate its effects. Active coping includes initiating direct action, increasing one’s efforts, and trying to execute a coping attempt in stepwise fashion” (Carver et al., 1989, p. 268). Farmers reported the use of coping behaviours such as sourcing better staff, planning, problem solving, being conservative with money and gathering knowledge, which are included within this coping theme. This theme is concerned with the farmers identifying stressors in their farming lives and actively making changes to their behaviour in order to minimise or eliminate the stressor. It has a resemblance to problem focused coping as defined by Lazarus (1993) as they both target the cause of the stress in a practical way. Active coping was reportedly used by all 11 participants in this study.

The Brief COPE questionnaire was used in this study to add support for the qualitative responses on coping strategies. One scale included in this measure is active coping. Participants reported (on average) the use of active coping strategies in the Brief COPE. Planning and acceptance are some other scales which were reported to be used by the farmers in this study, these behaviours were also highly used. These scales are also coping behaviours which fall into the active coping theme as presented previously in the findings chapter. Correlation analysis of the Brief COPE also provided support for the active coping theme as the active coping scale correlated moderately with instrumental support, positive reframing, planning and acceptance. Instrumental support and planning link with the active coping theme, as they were behaviours included in the theme. The positive reframing and acceptance correlations justify the use of work related major theme in this study, as they demonstrate the relationship between the active coping and constructive thinking theme. Another correlation which offers some support for the active

coping theme is high correlation between planning and humour. Planning and humour may be correlated as the participants may have used humour to reappraise the stressor from something that's uncontrollable, to a stressor that the individual can do something about. There is however a correlation that challenges the active coping theme, and that is a high correlation between planning and self-blame. This correlation creates uncertainty around this theme as planning would be considered a problem focused behaviour which would be adaptive in nature, while self-blame would be considered a maladaptive strategy that is more emotion focused. This correlation may have occurred as the farmers in this study may have engaged in planning that was reflective in nature. This reflection may have had a negative focus, with the farmer attempting to determine where he could have done things differently to obtain a different outcome. This negative type of reflection may lead to the farmer to blame themselves for issues, leading to the high correlation between planning and self-blame.

The active coping theme could be linked to a review by Thoits (1995). This article looked at stress, coping and social support processes. Thoits (1995) reported that people high in self-esteem or perceived control were more likely to use active, problem focused coping responses to a stressor. The author also noted that problem focused behaviours, like active coping have been found to decrease psychological distress. This reinforces the findings in the current study, as participants actively attempted to reduce a stressor when they were able to do so. Self-esteem might also influence the choice of coping behaviour as farmers who have high self-esteem might be more confident their abilities to overcome a stressor and therefore choose more problem focused strategies.

A study completed by Botha and White (2013) also has similarities to the active coping theme. One type of behaviour included in this theme is sourcing better staff. This behaviour was about the farmers using better staff selection processes to employ workers that the farmer can trust and rely on. Botha and White (2013) found that farmers may need help and advice with appointing and managing staff, as many farmers actually struggle with employment and farm staff issues. This adds support to findings in the current study as it was found that sourcing better staff was a coping behaviour engaged in by many participants. By sourcing better staff participants are able to minimise the stress they feel due to staffing issues.

Problem focused coping involves engaging in active strategies to resolve the stressor (Riley & Park, 2014). Active coping as a theme falls under the problem focused coping umbrella as it encompasses the coping behaviours that farmers engaged in which had a direct influence on the occupational stressor. Farmers in this study reported the use of active coping behaviours proactively to reduce to possible effects of a stressor. This type of coping requires the farmers to be aware of all aspects of their job so that they can attempt to predict possible outcomes of situations, plan for those situations and take action to minimise the negative effect challenging situations could have on the farm, the farmer and the animals. Problem focused coping as an approach to coping supports the active coping theme.

### **Constructive Thinking**

Constructive thinking was another theme found in the reported coping strategies that the dairy farmers in this study used for occupational stress. Constructive thinking coping involves managing the emotions felt by the individual due to stress through adaptive thought processes (Carver et al., 1989). Constructive thinking can be defined as “automatic thinking that contributes to effective coping with everyday problems in living at minimal cost in stress to the individual” (Cox, 1995, p. 4). Farmers reported the use of coping behaviours such as setting goals, resilience and looking forward to less stressful times. This theme is focused on remaining positive and resilient in tough times, and setting goals to remain focused on personal targets that the farmers would like to achieve. It has a resemblance to meaning focused coping, which involves changing the perceived meaning of a situation (Riley & Park, 2014). Constructive thinking was reportedly used by ten participants in this study.

Farmers reported on average a high use of the positive reframing and acceptance coping strategies in the Brief COPE questionnaire. These were behaviours that are associated with the constructive thinking theme. These strategies relate to constructive thinking theme as positive reframing is concerned with reassessing the importance of an issue, while acceptance of an issue is necessary for the person to then determine how they think about that issue. These behaviours correspond as they both are concerned with the individual modifying their thinking. Correlation analysis also justifies the grouping of these behaviours

in the theme, as there was a high positive correlation between positive reframing and acceptance in the Brief COPE. This correlation could have occurred as both positive reframing and acceptance are based on adaptive thinking processes like looking for the positive in a situation or letting go of the situation and moving forward.

Caldwell and Boyd (2009) conducted a study which looked at coping and resilience of farming families in Australia who were affected by drought. A coping strategy that was discovered in this study was the ability to stay positive and a belief that the individual was coping well in spite of the stressors. This coping strategy encompassed behaviours such as positive appraisals, optimism and perceived vigour. These behaviours were all included in the constructive thinking theme, which empirically supports the theme in this study.

The constructive thinking theme shows a closeness to meaning focused coping (Riley & Park, 2014). Meaning focused coping involves adjusting the appraised meaning of a situation or issue to be more consistent with the individual's beliefs and goals. Meaning focused coping has been linked to various aspects of positive adjustment in different stressful situations (Riley & Park, 2014). Meaning focused coping is similar to constructive thinking as both the coping strategies are based on manipulating the individual's beliefs about the stressful issue, and is useful to an individual dealing with issues they believe to be uncontrollable. Meaning focused coping has been shown to be useful when dealing with ongoing or chronic stress, as there may be limited opportunity to engage in problem focused coping behaviours (Riley & Park, 2014). This adds support to the findings in the current study as an adaptive way of coping.

## **Major theme 2: Social related coping**

A major theme found in this study was social related coping. Social related coping in this study referred to coping behaviours used by the participants to minimise the emotional effects of occupational stressors by utilising social networks and recreation for support. The strategies included in this major theme were leisure activities and social support. Leisure activities and social support relate to create this major theme as they both involve utilising social networks and groups as a source of support during difficult times. These strategies combine to create this



major theme as they both include socialising, spending time off the farm and with others as a way to manage feelings of stress.

### **Leisure Activities**

Leisure activities was a theme in the reported coping strategies that New Zealand dairy farmers within this study use for occupational stress. Leisure activities coping encompasses behaviours that are non-work related and essentially things that the dairy farmers wanted to do, and enjoyed doing. Leisure contributes to stress coping in many ways, including leisure-generated self-determination disposition, which relates to an increase in motivation, taking a break from a stressful problem and can also provide an opportunity to enhance positive mood or reduce negative mood (Iwasaki & Mannell, 2000). Farmers reported the use of coping behaviours such as personal hobbies, spending time with family and simply getting off the farm as a form of leisure and as a way of coping with occupational stress. The basis of this theme is farmers making some time to focus on an activity that is not work related and have some time for themselves. Leisure activities were reportedly used by all 11 participants in this study.

A study which had a finding which resembles the leisure activities theme was conducted by Weigel and Weigel (1987). This study looked at identifying possible stressors and coping strategies in farming families where two generations of people are running the farm together. A coping strategy that the authors found to be used was what they called fun. This strategy included the behaviours outside interests, visiting friends and physical activity. These types of activities allowed the farmers in this study to recuperate and recharge their energy levels (Weigel & Weigel, 1987). The current study empirically supports this finding as behaviours such as hobbies, spending time off the farm and fitness were found to be ways that farmers cope with occupational stress.

Leisure activities as coping strategies were also found to be beneficial by Iwasaki and Mannell (2000), and Iwasaki and Schneider (2003). These studies looked at leisure, stress and coping. These articles suggest that leisure can minimise the effects of stress in two ways: through the leisure generated social support and a leisure generated self-determination disposition. This means that the farmers who engage in leisure activities are able to utilise support from others as well as increase

motivation for themselves. This adds support to the leisure activities theme, and the usefulness of leisure coping for New Zealand dairy farmers.

### **Social Support**

Social support was a theme found in the reported coping strategies that New Zealand dairy farmers use for occupational stress. Social support involves the perception that an individual is cared for and can access assistance from others. Social support can be defined as “tasks performed for an individual by significant others, such as family members, friends, and co-workers” (Thoits, 1995, p. 64). Farmers reported the use of coping behaviours such as comparing their situation to others, discussing farming with other farmers, and socialising with friends and family within this coping theme. The basis of this theme is the perception that the farmers in this study had support and assistance available to them from social networks when and if they needed it. This theme was spilt into two types, instrumental support and emotional support. Instrumental support involves seeking assistance or guidance about issues, while emotional support involves seeking guidance or empathy for the individual’s feelings about an issue. Social support was reportedly used by all 11 participants in this study.

Farmers reported on average a high use of instrumental support and a moderate use of emotional support coping strategies in the Brief COPE questionnaire. These behaviours are included in the social support theme and offer different types of social support for individuals. Correlation analysis justified the combination of these coping strategies within a theme as there was a high correlation between emotional support and instrumental support. A high correlation was also found between emotional support and religion, which supports this theme as religion can be a form of emotional support for some people. Positive reframing correlated moderately with instrumental support and somewhat with emotional support. Instrumental and emotional support may have correlated with positive reframing as the influence of others may have helped the farmers in this study to see their situation in a more positive light. Acceptance also correlated with both types of social support; highly correlated with Emotional Support, while there was a reasonable correlation with Instrumental Support. This correlation may have occurred because as farmers may be able to accept a situation easier with the support

of others. Venting also correlated highly with instrumental support and moderately with emotional support, which also adds support for this theme as venting is the outward expression of emotion, usually to others, which is also encompassed as a behaviour within this theme. Venting however could be considered maladaptive as the individual may be repetitively using self-vindicating statements which can be self-limiting for that individual.

There are some studies which advocate the social support theme. A study which provides backing for the social support theme was conducted, which looked at the role of stable and situational factors, and how they influence coping (Terry, 1994). This study found that social support can be both a problem focused and emotion focused strategy as it can provide emotional and practical or informational support. This supports grouping instrumental and emotional support together, as while the two may be different in the way that they give support to a stressed individual, the underlying concept of both types of support is the same, which is to give support to an individual. Terry (1994) also suggested that a perceived lack of social support was related with the use of avoidance type coping strategies. This shows that social support is beneficial for helping individuals to make adaptive choices in their coping behaviours to combat stress.

Thoits (1995) discussed the importance of social support for coping with stress. The author explained that perceived emotional support is directly associated with better mental and physical health, and often acts as a buffer to the damaging impacts that stress can cause to mental and physical health. For farmers, emotional support might diminish the negative effects of stress as other people can provide a source of strength for that farmer so they can overcome stressors. This study adds support for the current study as it shows that social support can be constructive for farmers, and can help them to deal with stress due to farming issues.

Weigel and Weigel (1987) conducted a study which looked at stress and coping strategies of farmers who worked with their parents. A key coping technique that the farmers in this study used was talking. This strategy included the behaviours talking to other families; talking to relatives; seeking help from professionals and having family meetings which were used to cope with occupational stress. This strategy was significant for the participants in this study as they felt it was important to talk about problems and stress. This is a similar finding to the social support

theme in the current study. This reinforces the idea that social support is a coping strategy which farmers use in order to cope with occupational stress.

A study which looked at suicide in Australian farmers conveyed the importance of talking about problems (Judd, Jackson, Fraser, Murray, Robins & Komiti., 2006). Talking about problems was determined to be the most used and beneficial course of action in dealing with difficulties. However, the participants in that study did note that it was only acceptable to talk about farming difficulties if they did not complain and the farmers still had to remain positive. This also supports the social support theme in the current study as talking about problems is the foundation of engaging in social support.

Caldwell and Boyd (2009) looked at coping and resilience in Australian farming families who had been affected by drought. The authors found that participants in this study used collective coping strategies to cope with farming stress caused by a drought. The behaviours included as collective coping strategies were support from partners and children, using the community as a resource and social debriefing. This study increases support for the current study, as both studies had similar findings. These types of collective coping strategies were evident in the current study, for example talking about farming with others was a behaviour included in the social support theme. Participants also received assistance and encouragement from their wives, children and fellow farmers in the community.

### **Maladaptive Coping**

Maladaptive coping was a theme in the reported coping strategies that New Zealand dairy farmers use for occupational stress. Maladaptive coping strategies are about orientating the farmers' thoughts and emotions away from the stress, so that they are not dealing with the stressor at all (Skinner et al., 2003). This theme encompasses coping behaviours used by the participants which do not allow an individual to adapt in any way to the stressor. Farmers reported the use of behaviours such as suppressing feelings, avoidance and consuming alcohol within this coping theme. This theme is concerned with farmers attempting to distract themselves from their occupational stress. Maladaptive coping was reportedly used by eight participants in this study.

A scale in the Brief COPE which links to this theme is self-distraction, which farmers on average reportedly used frequently. However, findings in the Brief COPE also indicated that behaviours included in the maladaptive coping theme may not as evident as initially thought, as farmers reported on average low use of denial and behavioural disengagement. This finding may be reflective of the situation of dairy farming as farmers felt that they could not just give up when things got tough, they had to keep on going. The Brief COPE also revealed a possibly contradictory finding, as farmers reported low substance use, however drinking was reported as highly used during the interviews. This might have occurred as farmers might not feel that they have bad drinking habits, and therefore they reported lower use on the questionnaire. Correlation analysis of the Brief COPE identified that self-distraction somewhat correlated with denial, and also somewhat negatively correlated with planning. This means that as self-distraction behaviours increase, planning behaviours decrease. Behavioural disengagement strongly correlated with self-blame, and contradictorily highly correlated with humour. Humour may increase in participants who behaviourally disengage from a situation, as they may use humour in order to cope with the reality of giving up trying to overcome the challenging situation. Substance use correlated strongly but negatively with humour and moderately but negatively with planning. This means that as substance use increase, humour and planning behaviours decrease. Denial also moderately but negatively correlated with self-blame and somewhat negatively correlated with emotional support and instrumental support. Denial also correlated somewhat negatively with humour.

A study which looked at coping strategies and alcohol consumption (Tennen, Affleck, Armeli, & Carney, 2000) provides some insights for the maladaptive coping theme in this study. Tennen et al. found that alcohol use was best predicted by the use of emotional and avoidant type coping strategies for stress. This means that farmers are more likely to consume alcohol when also engaging in avoidant or emotional type coping strategies. Tennen et al. (2000) also found that participants in their study consumed less alcohol on stressful days when they had engaged in more active coping strategies when compared to days when they used less active coping strategies. The participants also consumed more alcohol on stressful days when they used more emotion focused strategies. This adds support

for the current study as alcohol consumption was also found as a coping strategy used by the farmers in this study.

Another study which can be associated with the maladaptive coping theme was conducted by Corbin, Farmer, and Nolen-Hoekesma (2013). This study looked at the relations between stress, coping and alcohol consumption. This study found that higher levels of stress were affiliated with higher levels of drinking to cope. This study also concluded that the use of problem focused strategies such as suppression of competing activities and planning were useful in buffering the risk for negative drinking outcomes. This study links to the current study as the findings in the current study also suggest that as substance use increases, problem focused coping strategies such as planning and humour decrease.

Support for the maladaptive coping theme was also found in an investigation of coping strategies and stress of two generation farming families (Weigel & Weigel, 1987). A key coping strategy found to be used by participants in this study was avoidance. The avoidance strategy used by these Australian farmers included behaviours like leaving the problem, venting and procrastinating. This links to the current study as avoidance was a behaviour included under the maladaptive coping theme. The authors concluded that these behaviours may actually be helpful for the farmers providing that they eventually address the stressful situation. This suggests that avoidance as a coping behaviour may not a negative occurrence, if something productive is ultimately done to deal with an issue. This study adds support to the findings of the current study as Weigel and Weigel (1987) also found that avoidance was a coping strategy used by farmers.

Roy, Tremblay, Oliffe, Jbilou, and Robertson (2013) looked at mental health disorders in Australian male farmers. They found that male farmers are particularly vulnerable to self-medicating and suicide as they experience significantly high occupational stress and mental health challenges, along with hesitation for help seeking. Self-medicating in the form of consuming alcohol was found to be used by some participants in this study. Participants used alcohol as a way to stop thinking about work stress and to help them relax when they felt particularly stressed.

## **Personal Health**

Personal health was a theme found in the reported coping strategies that New Zealand dairy farmers in this study reported using for occupational stress. Personal health coping strategies are about the farmers engaging in behaviours which ensure their physical health is sufficient so that they are able to complete tasks required by them of their job. Farmers reported the use of behaviours such as taking adequate breaks during the day and getting enough sleep. The basis of this theme is individuals aspire to enhance their well-being through sufficient sleep and adequate diet in order to avoid the negative consequences of stress (O'Driscoll & Cooper, 2002). Personal health coping was reportedly used by six participants in this study.

Personal health can be linked to the concept of symptom management. The management of stress symptoms is concerned with attempts to directly alter the stress symptoms. Symptom management coping strategies are the most widely publicized coping techniques. Examples of symptom management would be exercise, relaxation training, and the use or abuse of drugs and alcohol in order to relieve the affective and physiological stress symptoms (Latack, 1984). This relates to personal health as the focus of this theme is maintaining physical health so that the participants in the study were able to continue working. Lack of sleep and energy are common consequences of stress, therefore by ensuring that they were having breaks and sleeping properly, the participants were managing the symptoms of stress, and therefore minimising the stress felt by those participants.

Overall, six main themes were derived from the interview responses in this study, and were grouped together to form two major themes. The first major theme was work related coping which included both the active coping and constructive thinking themes. The second major theme was social related coping and it incorporated the leisure activities and social support themes. Maladaptive coping and personal health were other themes which were also found. Active coping, leisure activities and social support were the most commonly used coping strategies and were reported used by all 11 participants. Constructive thinking was reportedly used by ten participants. Maladaptive coping was reported by eight participants and personal health coping was discussed by six participants in this study. Responses from the questionnaires provided support for these themes.

## **Strengths of the research**

The major strength of this study is that, based on a review of the literature, it appears to be the first study to attempt to identify the possible coping strategies that New Zealand dairy farmers use to deal with occupational stress. Previous research has largely focused on identifying the stressors that cause stress for New Zealand farmers. The most commonly found stressors include but are not limited to paperwork, changes in the industry, time pressures and weather. The current study validated these stressors during the interview as the participants explained their coping strategies in direct conjunction with the identified stressors. One previous study has investigated the coping strategies used by farmers in Australia, when attempting to deal with stress caused by drought. This study found similar results to the current study. The master themes found by Caldwell and Boyd (2008) included problem focused coping, cognitive focused coping and collective coping strategies. This is similar to the findings of the current study as active coping, constructive thinking and social support are themes which are similar in nature to those in the Caldwell study. This research adds to the literature regarding occupational stress of dairy farmers, particularly in New Zealand, and it also gives insights into coping strategies used by some New Zealand dairy farmers.

Another strength of this study was the use of a mixed methods design. This study was conducted using a qualitatively driven approach, which means that the study was mainly qualitatively based, but with quantitative questionnaires to support the qualitative findings providing added value to the results (Johnson, Onwuegbuzie, & Turner, 2007). The mixed methods design is a strength of this study as it uses the benefits of each approach to allow for a better understanding of the research aims than either method alone. The study was first able to gather in depth data from participants regarding the coping strategies which they used, and this was then supported with a general coping questionnaire. This means that the weaknesses of qualitative and quantitative research are offset by the strengths of the approaches.



## **Limitations of the research**

There are a couple of measurement issues meaning that the results should be interpreted with caution. The reliance on self-report measures is a limitation of this study. Self-report measures can be problematic due to the occurrence of many kinds of response bias, such as social desirability (Donaldson & Grant-Vallone, 2002). It is difficult to tell whether or not social desirability played a role in the responses of the participants. The use of interviews led to rapport between the researcher and the participant which may have minimised response bias. However as this data was all collected through self-report it is impossible to know if accurate information was given by the participants.

Participants in this study may have been prone to present their feelings in a way which would make them seem more socially desirable, which could have had an effect on the results as it could mean that the use of adaptive methods found such as active coping were exaggerated by participants, while the reported use of maladaptive coping was downplayed by some participants.

Donaldson and colleagues (2002) explained however that by using a minimum of two data sources in a study the validity threats of self-report measures can be kept to a minimum. Response bias may not be a significant issue to this study due to the use of mixed methods data collection.

## **Implications**

The results of this research have theoretical implications. The study adds to literature on coping strategies for occupational stress. It supports theories such as the transactional model of stress as defined by (Lazarus, 1993), due to similar findings of problem and emotion focused coping behaviours. This study found that participants used various forms of problem and emotion focused coping such as active coping and social support in order to deal with occupational stress. This study also increases the knowledge of coping strategies used by individuals in high stress occupations such as farming.

The results of this research also have had several practical implications. The aim of this research was to identify coping strategies that New Zealand dairy farmers use to cope with stress they felt from their jobs. This study provided some

insight into the coping strategies that dairy farmers may use to cope with their stressful work environment. The knowledge of the adaptive coping strategies to other dairy farmers could help to minimise the negative effects of stress and reduce the high suicide rate in dairy farmers. Adaptive coping strategies will allow the farmers to adjust to the challenging situation and learn techniques that will be useful for other stressful issues. The adaptive strategies found in this study were active coping, constructive thinking, leisure activities, social support and personal health.

The first important finding of this research is the reported use of active coping among the participants. This finding is important as it is an adaptive coping strategy which may be useful for other dairy farmers to use who lack good coping strategies for occupational stress. By using active coping strategies for occupational stress farmers have the control to directly minimise the stress they feel due to various issues.

The second important finding of this research is the use of constructive thinking coping among the participants. This finding is important for the dairy industry as its useful to recognise that there are still effective coping strategies to use, even when the individual has no control over the stressor, for example bad weather. By using constructive thinking coping farmers have the ability to adjust their opinions and reasoning about a challenging issue which can provide the farmers with motivation to overcome the issue.

The third important finding of this research is the use of leisure activities as a way that the participants in this study dealt with occupational stress. This is an important finding as it may be useful for other dairy farmers to know that taking time out for themselves is necessary and that they should not feel guilty for doing so. Therefore this finding may help other dairy farmers in New Zealand to cope better with occupational stress leading to improved mental health of New Zealand dairy farmers.

The final important finding of this research is the use of social support among the participants to cope with occupational stress. This is an important finding as it shows the significance of spending time with others, and talking about problems. Many participants in this study felt guilty for taking time for themselves, and these findings show that it is actually beneficial for them to do so. This may allow the farmers to take that time for themselves without feeling remorseful. Overall these coping strategies are important for use in the dairy industry. The dairy

industry is now recognising the importance of maintaining mental health for its farmers, especially in the current climate with a low pay out and poor weather (Botha, 2012). The knowledge of these coping strategies can hopefully help some farmers cope better during tough times, and help the farmers to realise that they are able to do something to make themselves feel better.

## **Future Research**

This research contributes to the knowledge of New Zealand dairy farmers with respect to their occupational stress and coping strategies for that stress. Future research could look into confirming whether the results from this study are an accurate reflection of the coping strategies that all New Zealand dairy farmers engage in. As this study was exploratory, a study on a larger scale may empirically confirm the use of the reported coping strategies found in this study. Research to investigate the use of the identified strategies from the current study would be beneficial as it would validate the findings of the current study.

While this study identified coping strategies that New Zealand dairy farmers used to deal with occupational stress, it has not looked at the effectiveness of the coping strategies. Future research could look into the influence that the coping strategies have on stress felt by farmers. Research to investigate the effectiveness of the coping strategies identified in this study could be beneficial for the dairy industry as they then know what kind of behaviours to promote to New Zealand dairy farmers in order to combat increasing suicide rates and poor mental health.

## **Conclusion**

Most of the previous research conducted with New Zealand dairy farmers examined their main causes of stress. The aim of this study was to explore and identify coping strategies that New Zealand dairy farmers engage in to eliminate or reduce the effects of stress due to their occupation. The current study found that New Zealand dairy farmers reported the use of active coping, constructive thinking, leisure activities, social support, maladaptive coping and personal health strategies to attempt to deal with stress. These participants used both problem and emotion

focused strategies to cope with occupational stress. In the current climate of the New Zealand dairy industry, the knowledge of these strategies to dairy farmers lacking effective coping strategies is important to maintain good mental health of farmers and to reduce the high suicide rate within the industry.

## References

- Abel, M. H. (2002). Humor, stress, and coping strategies. *Humor: International Journal of Humor Research*, 15(4), 365.
- Alpass, F., Flett, R., Humphries, S., Massey, C., Morriss, S., & Long, N. (2004). Stress in dairy farming and the adoption of new technology. *International Journal of Stress Management*, 11(3), 270–281.  
<http://doi.org/10.1037/1072-5245.11.3.270>
- Beehr, T. A., & Franz, T. M. (1987). The current debate about the meaning of job stress. *Journal of Organizational Behavior Management*, 8(2), 5–18.  
[http://doi.org/10.1300/J075v08n02\\_02](http://doi.org/10.1300/J075v08n02_02)
- Botha, N. (2012, February). An overview of NZ research findings regarding farmer stress. *AgResearch NZ*. Report prepared for DairyNZ
- Botha, N., White, T., & others. (2013). Distress and burnout among NZ dairy farmers: Research findings and policy recommendations. *Extension Farming Systems Journal*, 9(1). Retrieved from  
<http://www.apen.org.au/extension-farming-systems-journal>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.  
<http://doi.org/10.1191/1478088706qp063oa>
- Caldwell, K., Boyd, C. P., & others. (2009). Coping and resilience in farming families affected by drought. *Rural and Remote Health*, 9(2), 45–41.
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: consider the brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92.

- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283. <http://doi.org/10.1037/0022-3514.56.2.267>
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396. <http://doi.org/10.2307/2136404>
- Corbin, W. R., Farmer, N. M., & Nolen-Hoekesma, S. (2013). Relations among stress, coping strategies, coping motives, alcohol consumption and related problems: A mediated moderation model. *Addictive Behaviors*, 38(4), 1912–1919. <http://doi.org/10.1016/j.addbeh.2012.12.005>
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, 10(7).
- Cox, D. D. (1995). *The impact of stress, coping, constructive thinking and hardiness on health and academic performance of female registered nurse students pursuing a baccalaureate degree in nursing* (Ph.D.). University of Pittsburgh, United States -- Pennsylvania. Retrieved from <http://search.proquest.com.ezproxy.waikato.ac.nz/docview/304217921/abstract>
- Dewe, P. J., O'Driscoll, M. P., & Cooper, C. L. (2012). Theories of psychological stress at work. In R. J. Gatchel & I. Z. Schultz (Eds.), *Handbook of Occupational Health and Wellness* (pp. 23–38). Springer US. Retrieved from [http://link.springer.com/chapter/10.1007/978-1-4614-4839-6\\_2](http://link.springer.com/chapter/10.1007/978-1-4614-4839-6_2)

- Donaldson, S. I., & Grant-Vallone, E. J. (2002). Understanding self-report bias in organizational behavior research. *Journal of Business and Psychology*, 17(2), 245–260.
- Edwards, J. R., Caplan, R. D., & Harrison, R. V. (1998). Person-environment fit theory. *Theories of Organizational Stress*, 28, 67.
- Elliot, A. J., Thrash, T. M., & Murayama, K. (2011). A longitudinal analysis of self-regulation and well-being: Avoidance personal goals, avoidance coping, stress generation, and subjective well-being. *Journal of Personality*, 79(3), 643–674.
- Field, A. P. (2013). *Discovering statistics using IBM SPSS statistics: and sex and drugs and rock “n” roll* (4th ed.). Los Angeles: Sage.
- Firth, H. M., Williams, S. M., Herbison, G. P., & McGee, R. O. (2007). Stress in New Zealand farmers. *Stress and Health*, 23(1), 51–58.  
<http://doi.org/10.1002/smi.1119>
- Fraser, C. E., Smith, K. B., Judd, F., Humphreys, J. S., Fragar, L. J., & Henderson, A. (2005). Farming and mental health problems and mental illness. *International Journal of Social Psychiatry*, 51(4), 340–349.  
<http://doi.org/10.1177/0020764005060844>
- Häusser, J. A., Mojzisch, A., Niesel, M., & Schulz-Hardt, S. (2010). Ten years on: A review of recent research on the job demand–control (-support) model and psychological well-being. *Work & Stress*, 24(1), 1–35.  
<http://doi.org/10.1080/02678371003683747>
- Iwasaki, Y., & Mannell, R. C. (2000). Hierarchical dimensions of leisure stress coping. *Leisure Sciences*, 22(3), 163–181.  
<http://doi.org/10.1080/01490409950121843>

- Iwasaki, Y., & Schneider, I. E. (2003). Leisure, stress, and coping: An evolving area of inquiry. *Leisure Sciences*, 25(2-3), 107–113. <http://doi.org/10.1080/01490400306567>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112–133. <http://doi.org/10.1177/1558689806298224>
- Judd, F., Jackson, H., Fraser, C., Murray, G., Robins, G., & Komiti, A. (2006). Understanding suicide in Australian farmers. *Social Psychiatry and Psychiatric Epidemiology*, 41(1), 1–10. <http://doi.org/10.1007/s00127-005-0007-1>
- Killgore, W. D. S., Kahn-Greene, E. T., Lipizzi, E. L., Newman, R. A., Kamimori, G. H., & Balkin, T. J. (2008). Sleep deprivation reduces perceived emotional intelligence and constructive thinking skills. *Sleep Medicine*, 9(5), 517–526. <http://doi.org/10.1016/j.sleep.2007.07.003>
- Lazarus, R. S. (1993). Coping theory and research: past, present, and future. *Psychosomatic Medicine*, 55(3), 234–247.
- Lazarus, R. S., & Folkman, S. (1984). Stress. *appraisal, and coping*, 725. Retrieved from <https://ccme.osu.edu/WebCastsFiles/562The%20Management%20of%20Stress%20-%202.pdf>
- Le Fevre, M., Matheny, J., & Kolt, G. S. (2003). Eustress, distress, and interpretation in occupational stress. *Journal of Managerial Psychology*, 18(7), 726–744. <http://doi.org/10.1108/02683940310502412>



- McGowan, J., Gardner, D., & Fletcher, R. (2006). Positive and negative affective outcomes of occupational stress. *New Zealand Journal of Psychology*, 35(2), 92–98.
- Mitrousi, S., Travlos, A., Koukia, E., & Zyga, S. (2013). Theoretical approaches to coping. *International Journal of Caring Sciences*, 6(2), 131–137.
- Montero-Marin, J., Prado-Abril, J., Piva Demarzo, M. M., Gascon, S., & García-Campayo, J. (2014). Coping with stress and types of burnout: Explanatory power of different coping strategies. *PLoS ONE*, 9(2), e89090. <http://doi.org/10.1371/journal.pone.0089090>
- O’Driscoll, M. P., & Cooper, C. L. (1994). Coping with work-related stress: A critique of existing measures and proposal for an alternative methodology. *Journal of Occupational & Organizational Psychology*, 67(4), 343–354.
- O’Driscoll, M. P., & Cooper, C. L. (2002). Job-related stress and burnout. In *Psychology at Work* (5th ed., pp. 203–228). Penguin Group. Retrieved from <http://researchcommons.waikato.ac.nz/handle/10289/4431>
- Raine, G. (1999). Causes and effects of stress on farmers: a qualitative study. *Health Education Journal*, 58(3), 259–270. <http://doi.org/10.1177/001789699905800307>
- Riley, K. E., & Park, C. L. (2014). Problem-Focused Vs. Meaning-Focused coping as mediators of the appraisal-adjustment relationship in chronic stressors. *Journal of Social and Clinical Psychology*, 33(7), 587–611. <http://doi.org/http://dx.doi.org.ezproxy.waikato.ac.nz/101521jscp2014337>
- Robertson, I., & Cooper, C. L. (2013). Resilience. *Stress and Health*, 29(3), 175–176. <http://doi.org/10.1002/smi.2512>

- Roy, P., Tremblay, G., Oliffe, J. L., Jbilou, J., & Robertson, S. (2013). Male farmers with mental health disorders: a scoping review. *The Australian Journal of Rural Health*, 21(1), 3–7. <http://doi.org/10.1111/ajr.12008>
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, 129(2), 216–269. <http://doi.org/10.1037/0033-2909.129.2.216>
- Suresh, S. (2008). Stress and coping strategies. *Management and Labour Studies*, 33(4), 482–487. <http://doi.org/10.1177/0258042X0803300403>
- Taylor, S. E., & Stanton, A. L. (2007). Coping resources, coping processes, and mental health. *Annual Review of Clinical Psychology*, 3(1), 377–401. <http://doi.org/10.1146/annurev.clinpsy.3.022806.091520>
- Tennen, H., Affleck, G., Armeli, S., & Carney, M. A. (2000). A daily process approach to coping: Linking theory, research, and practice. *American Psychologist*, 55(6), 626–636. <http://doi.org/10.1037/0003-066X.55.6.626>
- Terry, D. J. (1994). Determinants of coping: The role of stable and situational factors. *Journal of Personality and Social Psychology*, 66(5), 895–910. <http://doi.org/10.1037/0022-3514.66.5.895>
- Thoits, P. A. (1995). Stress, coping, and social support processes: where are we? What next? *Journal of Health and Social Behavior*, 35, 53–79.
- Trenberth, L., & Dewe, P. (2004). Work stress and coping: Drawing together research and practice. *British Journal of Guidance & Counselling*, 32(2), 143–156.

Wallis, A., & Dollard, M. F. (2008). Local and global factors in work stress-the Australian dairy farming exemplar. *Scandinavian Journal of Work, Environment & Health*, 66–74.

Weigel, R. R., & Weigel, D. J. (1987). Identifying stressors and coping strategies in two-generation farm families. *Family Relations*, 36(4), 379–384.  
<http://doi.org/10.2307/584487>

## **Appendix A**

### **Participant Information Sheet**

#### **Coping Strategies used by New Zealand Dairy Farmers to combat Stress**

My name is Chloe Kuriger, I am a post graduate student at Waikato University in the Masters of Applied Psychology programme. My area of study is the dairy farming industry. For my masters' thesis I am undertaking research exploring the possible ways in which New Zealand dairy farmers combat work stress in their lives.

Growing up on dairy farms in New Zealand I was aware that my farming parents felt stress and strain due to their chosen career, however I was unable to help them reduce these stressors. This research will generate information which may help farmers to deal with job pressure better. I hope that by attempting to identify the possible coping strategies which dairy farmers use to deal with stress that I'll be able to help some people to successfully handle their job.

This interview will take about an hour. We will begin with some basic demographic questions, and then proceed with the interview, following the interview I would like you just to fill out 2 small questionnaires so I can get an idea of your current stress levels and your coping behaviours. This study is exploratory based which means that I have no pre conceived ideas or aims of what I would like to find. I simply want to hear your experiences and your story, and learn about how you deal with some of the pressures associated with being a farmer.

If this experience is stressful for you and you feel you need help, please contact the Rural Support Trust on 0800 787 254.

If you have any questions regarding this study please feel free to contact me, Chloe Kuriger on 027-383-5232 or [chloekuriger@hotmail.co.nz](mailto:chloekuriger@hotmail.co.nz) . Or my supervisor Michael O'Driscoll on 07 838 4080 ext. 8899 or [psyc0181@waikato.ac.nz](mailto:psyc0181@waikato.ac.nz) .

This research project has been approved by the School of Psychology Research and Ethics Committee of the Faculty of Arts and Social Sciences, University of Waikato. Any questions about the ethical conduct of this research may be sent to the convenor of the Research and Ethics Committee (currently Dr James McEwan, phone 07 838 4466 ext. 8295, email: [jmcewan@waikato.ac.nz](mailto:jmcewan@waikato.ac.nz))

## Appendix B

### Consent Form

A completed copy of this form should be retained by both the researcher and the participant.

#### Coping Strategies that New Zealand Dairy Farmers use to combat Stress

Please complete the following checklist. Tick (✓) the appropriate box for each point.	YES	NO
I have read the Participant Information Sheet (or it has been read to me) and I understand it.		
I have been given sufficient time to consider whether or not to participate in this study		
I am satisfied with the answers I have been given regarding the study and I have a copy of this consent form and information sheet		
I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without penalty		
I have the right to decline to participate in any part of the research activity		
I know who to contact if I have any questions about the study in general.		
I understand that this interview will be voice recorded and transcribed after the interview has been completed		
I understand that my participation in this study is confidential and that no material, which could identify me personally, will be used in any reports on this study.		
I wish to receive a copy of the findings		
I wish to view the summary report of my interview		

Declaration by participant:

I agree to participate in this research project and I understand that I may withdraw at any time. If I have any concerns about this project, I may contact the convenor of the Psychology Research and Ethics Committee (Dr James McEwan, Tel: 07 838 4466 ext 8295, email: [jmcewan@waikato.ac.nz](mailto:jmcewan@waikato.ac.nz))

Participant's name (Please print):

---

Signature:

Date:

---

Declaration by member of research team:

I have given a verbal explanation of the research project to the participant, and have answered the participant's questions about it. I believe that the participant understands the study and has given informed consent to participate.

Researcher's name (Please print):

---

Signature:

Date:

---

## Appendix C

### Interview Protocol

Good Morning/Afternoon

Thank you for agreeing to participate in my research. I look forward to hearing about your experiences on your farm.

So firstly I am going to tell you a list of things which studies have shown to be common demands or disruptions for dairy farmers, just so that I can get you thinking about possible events or issues that you could be exposed to on the farm.

Could you please tell me what 3 issues cause the most pressure for you?

	Financial Issues
	Weather
	Poor work-life balance
	Health
	Pride and fear of humiliation
	Absence of social networks/support
	Increased work load at peak times of the year (e.g. calving?)
	Long Working Hours
	Issues relating to staffing and/or employment
	Complying with government regulations

Are there any other things that cause you to feel stress when you're working?

---

---

---

---

### Questions for interview

- So you said that you had felt pressure/demands from \_\_\_\_\_ issue. Can you tell me about a time when \_\_\_\_\_ issue caused you to feel pressure/demands in the last year?
  - What happened?
  - Can you tell me more about the incident?
  - How long did this event go on for?
  - How often does this pressure occur?
  - How did that make you feel?
  - Can you remember what were you thinking at the time of this incident?
  
- So you said that you felt pressure from \_\_\_\_\_. What actions did you take when this caused tension for you?
  - What did you do when this incident happened?
  - Did you for example; change your original plan of action, leave it to someone else, think about the problem differently, or ignore the problem?
  - Even though you may not have physically done something, did you think about the issue differently as a way to minimise pressure?
  - So this issue \_\_\_\_\_ happened, and you did \_\_\_\_\_. What made you decide to do that? Was it something you had done before, or you thought it might help the situation?
  
- What happened as a result of the actions you took?
  
- Do you feel that the actions you took \_\_\_\_\_, helped you feel less pressure/demands from \_\_\_\_\_?
  - So by doing \_\_\_\_\_ you felt less pressure/demands about \_\_\_\_\_?
  - How do you think that by doing \_\_\_\_\_, it helped you feel less strain? Did you tackle the problem head on? Did you just deal with the issue because you couldn't change it?



\* Repeat these questions with different stressful issues that the participant indicated previously\*

Thank you for doing this interview. Now I just would like to do one more thing, could you please completed this small stress questionnaire and small coping questionnaire? I would just like to know your current stress levels and your coping style.

### Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives:

**1=Never 2=Rarely 3=Sometimes 4=Fairly often 5=Very often**

<b>In the last month,</b>	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Fairly Often</b>	<b>Very Often</b>
How often have you been upset because of something that happened unexpectedly?	1	2	3	4	5
How often have you felt that you were unable to control the important things in your life?	1	2	3	4	5
How often have you felt nervous and "stressed"?	1	2	3	4	5
* How often have you dealt successfully with irritating life hassles?	1	2	3	4	5
* How often have you felt that you were effectively coping with important changes that were occurring in your life?	1	2	3	4	5
* How often have you felt confident about your ability to handle your personal problems?	1	2	3	4	5
* How often have you felt that things were going your way?	1	2	3	4	5

How often have you found that you could not cope with all the things you had to do?	1	2	3	4	5
* How often have you been able to control irritations in your life?	1	2	3	4	5
*How often have you felt that you were on top of things?	1	2	3	4	5
How often have you been angered because of things that happened that were outside of your control?	1	2	3	4	5
How often have you found yourself thinking about things you were unable to accomplish?	1	2	3	4	5
* How often have you been able to control the way you spend your time?	1	2	3	4	5
How often have you felt difficulties were piling up so high that you could not overcome them?	1	2	3	4	5

## Brief COPE

These items deal with ways you've been coping with the stress in your life. There are many ways to try to deal with problems. These items ask what you've been doing to cope with an event associated with your working life. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

**1=Never 2=Rarely 3=Sometimes 4=Fairly often 5=Very often**

	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Fairly Often</b>	<b>Very Often</b>
1. I've been turning to work or other activities to take my mind off things.	1	2	3	4	5
2. I've been concentrating my efforts on doing something about the situation I'm in.	1	2	3	4	5
3. I've been saying to myself "this isn't real".	1	2	3	4	5
4. I've been using alcohol or other drugs to make myself feel better.	1	2	3	4	5
5. I've been getting emotional support from others.	1	2	3	4	5
6. I've been giving up trying to deal with it.	1	2	3	4	5
7. I've been taking action to try to make the situation better.	1	2	3	4	5
8. I've been refusing to believe that it has happened.	1	2	3	4	5

9. I've been saying things to let my unpleasant feelings escape.	1	2	3	4	5
10. I've been getting help and advice from other people.	1	2	3	4	5
11. I've been using alcohol or other drugs to help me get through it.	1	2	3	4	5
12. I've been trying to see it in a different light, to make it seem more positive.	1	2	3	4	5
13. I've been criticizing myself.	1	2	3	4	5
14. I've been trying to come up with a strategy about what to do.	1	2	3	4	5
15. I've been getting comfort and understanding from someone.	1	2	3	4	5
16. I've been giving up the attempt to cope.	1	2	3	4	5
17. I've been looking for something good in what is happening.	1	2	3	4	5
18. I've been making jokes about it.	1	2	3	4	5
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4	5
20. I've been accepting the reality of the fact that it has happened.	1	2	3	4	5
21. I've been expressing my negative feelings.	1	2	3	4	5
22. I've been trying to find comfort in my religion or spiritual beliefs.	1	2	3	4	5
23. I've been trying to get advice or help from other people about what to do.	1	2	3	4	5
24. I've been learning to live with it.	1	2	3	4	5
25. I've been thinking hard about what steps to take.	1	2	3	4	5
26. I've been blaming myself for things that happened.	1	2	3	4	5
27. I've been praying or meditating.	1	2	3	4	5
28. I've been making fun of the situation.	1	2	3	4	5

Finally, could I please just have some demographic information from you? This is just to help me complete my analysis

**1. Age**

--

**2. How many cows do you milk?**

--

**3. Sex**

Male	Female
------	--------

**4. Marital Status**

Married	De Facto	Single
---------	----------	--------

**5. Ethnic Origin**

European Descent	Maori Descent	Asian Descent	Pacific Island Descent	Other
---------------------	---------------	---------------	------------------------------	-------

**6. How many years have you been farming?**

--

**7. Highest level of educational attainment?**

<5 years of Secondary School	5 years of secondary school	Undergraduate degree/diploma	Postgraduate degree/diploma
------------------------------------	-----------------------------------	---------------------------------	--------------------------------

**8. What other formal training/qualification have you acquired?**

(eg. AgITO/Taratahi)

---



---



---



---